Peter J. Priess

A Study of Surface-Mounted Door Locks from a Number of Archaeological Sites in Canada

Robert J. Burns

Inverarden: Retirement Home of Fur Trader John McDonald of Garth

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Abstract

A variety of surface-mounted door locks and some of their accessories are described and illustrated. For the most part these date from the 18th, 19th and early 20th centuries. In addition, a brief history of door locks and an extensive glossary of terms for the description of door locks are presented. There is some general indication of dating, but for the most part a specific date is not attached to individual examples of a lock form.

Submitted for publication 1977, by Peter J. Priess, Parks Canada, Prairie Region, Winnipeg.

Introduction

Door locks and door-lock fragments are found regularly, although in relatively small quantities, during the excavation of historic sites or structures in Canada and it is important that the archaeologist be able to recognize the various lock types present from the items found. Since the early door lock is also a conspicuous item because of its usual location on the surface of a door, the nature of lock types is also a matter of interest to the restorationist who is responsible for selecting appropriate locks for installation on a reconstructed building. A study of some of the lock types used during the historic period in Canada is of use to the archaeologist in providing a means of identifying lock types from the parts and fragments found. It also provides the restorationist with an idea of some of the door-lock types which have been used.

This study has two major objectives. The first is to examine various types of surface-mounted locks from a number of sites excavated by Parks Canada and the second is to assemble an extensive glossary for locks, lock parts and lock-related matters. The study of types will provide the archaeologist with a better means for identifying his materials, especially the parts and fragments which are the usual form in which locks are found in excavations. The glossary will then provide the means for preparing proper and complete descriptions and for the exchange of data among researchers. The standardization of terminology is necessary for proper description of objects and mutual understanding among researchers.

Many of the locks described in the present study are from archaeological sites and are, therefore, seldom complete. The inclusion of examples from standing structures would have provided more complete objects and a greater variety of types, but at this time an insufficient number of such locks have been examined. The nature of the sites from which the locks have been selected provide a further limitation. They do not comprise a complete sample for the historic period in Canada nor for the range of types of sites which have existed. A number of the sites are military, associated both with French and British occupations and generally dating during the second half of the 18th century and the first half of the 19th century. Material from an earlier military site is used only in the discussion of the identification of parts and fragments. A number of sites are domestic, dating during the second half of the 19th century and the early 20th century, one is associated

with the North-West Mounted Police, dating to the 1870s and 1880s, and one is associated with the western fur trade, dating after 1831. A consequence of using artifacts from such a mixture of sources is that the locks are not always comparable. For instance, only general conclusions on change through time are possible. For most of the locks, contexts are not considered; since these are archaeological specimens it is often not possible to relate an object to the area or structure in which it was found. The selection of locks for study was concerned with finding as many different forms as possible in accessible site collections. No attempt was made to locate more than one example of a form so that discussions on distribution or quantity are not possible.

Because door locks are relatively complex items of building hardware and also because surface-mounted types have often been extensively ornamented, they have attracted the attention of numerous authors and are considered regularly in early encyclopaedias and various other books and articles; however, for the most part these do not consider the subject from the perspective of the archaeologist or restorationist and, therefore, do not provide the type of answers required. There is more concern with the attractive or unusual examples rather than with the ordinary locks which would have been used in most situations. Discussion of lock manufacture or the nature of mechanisms of ordinary locks also lacks in detail. Other sources are more concerned with lock picking and bank robberies. A bibliography of useful references is included here.

The Nature of a Door Lock

A door lock can be defined as "an instrument for securing a door...by means of an interior bolt which can not or ought not to be capable of being moved, except by the application of a key or lever, applied to it from without" (Tomlinson 1854, 2: 193). In all instances it is attached permanently to a door; a padlock can serve the same purpose but is portable. The above definition outlines the basic requirements for a lock: it must have a key-operated bolt. The bolt can slide out of the lock housing to engage with a catch on the door frame to secure the door, and this operation is limited to those in possession of the proper key. The key is usually a tangible and portable object, but can also be in the form of a code, carried in the memory of the user as a combination of numbers, letters or the like.

In addition to its bolt, a lock must also have some form of case or housing within which the bolt can operate and the operation of the bolt or bolts must be controlled or guided so that they move only in prescribed directions or through prescribed distances. Control and direction is provided by features generally designated as stops and guides. The nature and extent of the stops and guides varies with the lock type.

The operation of a lock is limited through the presence of various obstructions within the lock case. These are intended to prevent the use of any but the correct key. Although such obstructions have a variety of shapes and sizes, they are basically of two types; they are either fixed, and are designated as wards, or they are movable, and are

designated as tumblers. Wards are obstructions to the movement of a key and tumblers are obstructions to the movement of a lock bolt. The correct key is one which is shaped so that it can move past all of the wards and move the tumblers so as to free the lock bolt. A lock will usually have both wards and tumblers. However, a lock can also be operated by an illegal key which is designed so that it can ignore the wards and move the tumblers as necessary.

A lock may be attached to the door in one of three ways: fastened to the surface, therefore being fully exposed to view; let into the door flush with the surface and having only the outer surface of the main plate exposed to view (flush lock); or let into the edge of the door and thus visible only when the door is open (mortise lock). Neither of the latter two are considered in the present study since examples are not present in the collections examined. The designation of a surface-mounted lock is further divided on the basis of its housing; it has either a wooden housing and is known as a stock lock or has a metal housing and is known as a rim lock.

The security of a lock lies in its wards and tumblers. Locks usually have both forms, but often of such simplicity that the lock is secure only in the presence of an honest person. Wards consist of plates, pins or other devices attached to the lock housing. To move past such obstructions, a key is cut or shaped to correspond to the specific number and arrangement of wards. Wards are also present in the shape of the keyhole; only a key of corresponding shape and size will fit into the lock.

An early and simple form of tumbler consisted of a bar which in some way could engage with the lock bolt and prevent movement of the bolt in either direction. The bolt can be moved only after the tumbler is moved out of the way. The "double-acting" tumbler is an improvement on this basic design in that it must be moved to a specific position; if it is moved too little or too much the lock bolt cannot be moved. Both of these forms can be referred to as "lever" type tumblers. An alternative to the lever mechanism is the pin tumbler, developed after the middle of the 19th century, in which each pin has to be lifted to the correct position before the lock can be operated. None of the locks described here has pin tumblers.

Locks may also be characterized in terms of the types of bolts they have. All locks must have a lock bolt, but they can also have two other types of bolts. The first of these is a latch bolt, held in a thrown position by a spring and withdrawn by some form of handle; the head of a latch bolt is bevelled so that the bolt is automatically withdrawn as the head passes the catch on the door frame. The second addition is a night bolt, a sliding bolt operable only from one side of the door. Any lock having only a lock bolt is designated as a "one-bolt lock" regardless of how complex that one lock bolt may be or how many heads it may have. The addition of a latch bolt produces a "two-bolt lock." A latch bolt without the presence of a lock bolt is a latch, not a lock, and is not the subject of consideration here. The addition of a night bolt produces a "three-bolt lock." A night bolt is not known to occur in the absence of a latch bolt on a lock; therefore, it is always present as the third bolt in a lock. The combination of a latch bolt and a

night bolt, without a lock bolt, would also be a latch rather than a lock.

A Brief History of Locks

The lock is a security device of considerable antiquity· authors discussing its history readily draw on biblical and oth‹ r early references to make this point. Early locks were usually of wood and bulky, but these are not of concern here since they are not known to have been used in Canada. The early locks in this country, as known through archaeological excavations, are of the surface-mounted type, either stock locks or rim locks. Both of these types were available during most or all of the period of European settlement in North America. References to the use of stock locks in England appear in the 14th century (Salzman 1967: 302-3) and references to use of various forms of rim locks appear in the 16th and 17th centuries.

The antiquity of wards and tumblers is not clearly known. Early wooden locks in Egypt used a type of pin tumbler, but this idea was not included in later metal locks. Pin tumblers were reinvented only in the 19th century. During the 18th century some form of wards and lever-type tumblers were used, usually in some combination of the two but often in rather simple forms. Until the last quarter of the 18th century the concern of lock technology was more with form than security and anyone with a basic understanding of lock mechanisms should have had little difficulty in opening a lock without having the correct key. In some instances the ward system was made extremely complex (Frank 1950: 75-6), but the mechanism was also so fine and time consuming to produce that the locks were not practical to use or produce commercially. In England, where patents were registered from the early 17th century, the first patent for a lock does not appear until 1774. The first recorded improvement in lock security is the British patent of Robert Barron in 1778.

Following Barron's patent, improvements in lock technology came at a greater rate as reflected, for instance, in the British patent records. However, the various types of improvements included in these patents are not present on the locks considered here. The types of locks used most often provide no more than a minimum of security. Possibly the choice of a lock was influenced by differences in cost or the opinion that the amount of security provided was adequate. In some instances there may even have been a misconception about the amount of security actually provided a specific lock form. Descriptions of lock developments during the late 18th and 19th centuries are discussed in varying detail by Price (1856), Hobbs (1970), Butter (1931; 1968), Eras (1957) or Hopkins (1928). Developments which receive the greatest amount of attention, although they may not be the greatest contributions to door-lock technology, are those of Bramah (1815) and Chubb (1850).

Surface-Mounted Lock Types

The locks considered by this study are surface mounted, either of the stock or rim type. Stock locks are both of the plain and plate types and rim locks are forged, cast, die stamped or some combination of these processes. One-, two- and three-bolt locks are included.

For purposes of observation and description, a normal orientation has been assumed for each lock. This is achieved simply by having the keyhole in its usual vertical position with the eye above the slot. There is no suggestion in this that a lock would always be mounted on the door in this fashion; they have, in fact, been observed mounted with the keyhole "upside down" and on occasion were even designed to have the keyhole oriented in this way (Viollet-le-Duc 1875, 8: 325). A normal orientation merely provides the means for consistent observation and for defining such simple concepts as up and down. The orientation used is not a reflection of the concept of handedness as used in builders' manuals.

Stock Locks

The stock lock is a surface-mounted lock with a wooden housing which consists of a wooden block with appropriate mortises to contain the parts of the lock. The two major subdivisions of this type are based on the manner in which the mechanism is held together. In the case of the plain stock lock, each part is let into the housing separately; no part is attached first to any other part. In the plate stock lock the mechanism is attached to a main plate which is then let into and attached to the housing.

The stock lock has several advantages over iron-cased ones. One advantage is price, but the one mentioned most often is that a wooden housing is preferable for use in damp locations where an iron lock would be more susceptible to corrosion (Streeter 1970: 251). Moxon (1703: 22) and Neve (1726) both mention the use of stock locks for outer doors or street doors and during the 19th century Knight (1876-77, 2: 1341) defined the stock lock in terms of use on stables, gates or other outside applications. During the 19th century, various types of plate stock locks were available, although possibly more so in England than in North America. Price (1856: 837-44) lists and illustrates a number of varieties and qualities such as "double bolted," "best fine plate," "full bushed," "superior," "extra large and strong," "best Irish" or

"bastard Irish." At this time improvements in the plate stock lock included Steele's patent in which the lock was mortised into the edge of the housing, making it possible to attach the lock with either side facing the door (Price 1856: 419); Sander's patent of 1839 in which the levers (tumblers) were attached to the bolt (Price 1856: 450), and Young's patent of 1825 in which the cavity in the wooden block was circular and cut on a lathe to improve the appearance (Price 1856: 406). Main plates on locks illustrated by Price (1856: Figs. 437-50) range from trapezoidal to rectangular to rectangular with lobes to circular. None of the improvements mentioned are present in the collection considered.

Plain Stock Locks

Because each part is attached in the housing separately, a plain stock lock is more likely to appear in an archaeological collection as a group of separate pieces, the housing to hold it all together having been lost through deterioration. Occasionally such a lock is located as a unit during excavations (Fig. 1) and in situations where plain stock locks are likely to occur it is important to excavate with sufficient care that the lock can be recognized and adequately recorded in the field before it is removed and the pieces become separated.

According to statements by Salzman (1967: 302-3) the stock lock was available in England by the 14th century; presumably this included the plain type although it is not specifically mentioned in his lists. Price (1856: 837) mentions the existence of plain stock locks and the fact that they are cheaper than other types of stock locks and Streeter (1970: 252) mentions that stock locks were still being produced in England. The latter reference is not specific as to whether plain or plate types are intended.

Category 1 (Figs. 1, 2)

For English plain stock locks it appears possible to characterize a particular form of lock as standard or common since the individual parts are usually of similar form. Of all lock types this one appears to have the least variety, at least in the case of examples from British sites. The parts are also quite distinctive and it is therefore possible to identify the presence of a plain stock lock through the presence of any one of a number of its characteristic parts, namely the lock bolt, tumbler, spring, bridge ward and key.

The bolt (Fig. 2c, d), in common with bolts for a variety of early lock types, has a head which is considerably thicker than the tail although for most of the length both are the same width. The tail may become wider near its end (Fig. 2c, d; Streeter 1970: Fig. 13) or be uniform in width throughout (Noël Hume 1970: Fig. 77a-4). The end of the tail is plain squared since it has no specific task to perform. The head is normally produced by folding the end of a flat bar and welding the folds together to form a block.

The upper edge of the bolt tail has at least two small square notches to engage with the tumbler. The talon, a notch with which the

key engages to throw and withdraw the bolt, is along the lower edge. For a multiple-throw bolt, one which is thrown completely only by more than one rotation of the key, the number of talons equals the number of throws. In contrast with talons for a number of other lock types, the talon here has been produced by removing a small square of metal.

The tumbler, as it is known to date, consists of a single basic shape which is that of the letter P (Fig. 2a, b). In some instances the loop may be more rounded whereas elsewhere it can have a definite square shape (Streeter 1970: Figs. 4, 13; Noël Hume 1970: Fig. 77a-2). There is some variation in the manner of attachment to the wooden housing. In most instances the end of the straight arm has a spur which was driven into the wood (Fig. 2b; Streeter 1970: Fig. 13; Noël Hume 1970: Fig. 77a-2); however, Noël Hume (1970: Fig. 77a-7) also illustrates a form which has a fastening plate at the end and is attached with a fastener in a manner similar to that of the spring.

The width of the tumbler is reduced abruptly near the beginning of the bend for the loop, providing the catch to engage in the notches along the top edge of the bolt tail. The loop of the tumbler serves as the belly, the part on which the key acts to raise the tumbler. In some instances, the arm has an additional flap near the bend and catch (Noël Hume 1970: Fig. 77a-9; Streeter 1970: Fig. 14) to fit over the top edge of the bolt tail and keep the tumbler aligned properly. In an assembled lock, the belly of the tumbler is behind the bolt tail.

The spring, as illustrated by Streeter (1970: Fig. 4), Noël Hume (1970: Fig. 77a) or Sonn (1928, 1: Pl. 107, Fig. 2), is V-shaped with a finial or attachment plate at one of its ends. It is attached with a fastener such as a nail and the free end rests on the top of the tumbler.

The main or bridge ward (Fig. 2e, f) appears to be of a distinctive shape, being relatively long and narrow. The ends are plain and may be thinned to a knife edge to facilitate being set or driven into the housing. All examples examined to date have only the eye of the keyhole and possibly a short portion of the slot (Fig. 2e, f; Streeter 1970: Figs. 5, 11, 14; Noël Hume 1970: Figs. 77a-5, 6, 77b). When compared with the bridge ward of plate stock locks, the differences are obvious. A plate stock lock with a bridge ward as illustrated by Noël Hume (1970: Fig. 77b-2) is unlikely.

Other wards, when they are present, are attached to the bridge ward. The ward most commonly present is the collar ward which also provides a bearing point for the key. Other wards are likely to be pin wards attached on either side of the bridge. Since there is no main plate present on which wards could be attached, it is also not possible to have wards on the cover plate, unless of course the lock is to be operable only from one side, in which case the system of wards need not be symmetrical.

The major part of the housing is the wooden block. The tumbler, tumbler spring and bridge ward are attached directly to this block; however, the lock bolt is only laid into its mortise and is held by two plates, one near either end of the bolt, and the cover plate. From the illustrations available (Sonn 1928, 1: Pl. 107, Fig. 2; Streeter 1970: Fig. 4) the plates at the end of the bolt are trapezoidal in shape with

the one over the end of the tail being slightly wider than the other. So far only one example is known from a Parks Canada site and this is an incomplete plate with one end cut obliquely (Barka and Barka 1976: Fig. 70e).

The cover plate is recognizable by the fact that it has fastening holes, but not the slots which appear on cover plates of plate stock locks or many types of rim locks and which serve to align the plate with the cheeks. The keyhole slot may be open at the bottom (Streeter 1970: Fig. 4) or closed (Sonn 1928, 1: Pl. 107, Fig. 2).

The guides and stops of a plain stock lock are provided by the channels cut into the housing and by the plates holding the bolt in place. The stop for withdrawal of the bolt is the end of the bolt channel. The stop for the throw of the bolt is either the lugs on either side of the talon or a shoulder along the lower edge of the tail. In contrast to other lock types, the stops in a plain stock lock are relatively simple.

Another characteristic feature of a plain stock lock is in its key. In the use of a key in a lock there is some advantage in providing a means of preventing the key from entering too far into the lock mechanism as well as a means of aligning the key properly. In locks to be operated only from one side, such as padlocks or cabinet locks, this is achieved easily with a drill pin attached to the main plate; the pin aligns the key and the main plate of the lock automatically serves as the stop; however, for door locks where operation is normally from both sides, a drill pin is not practical. In such cases the key is provided with a shoulder or collar on the shank to bear on some part of the mechanism or housing. For a plate stock lock or rim lock the key can bear either on the cover plate or main plate, depending from which side of the lock the key is inserted; however, a plain stock lock has no main plate so that the only suitable location for the shoulder or collar is approximately in the middle of the bit where it will bear on the bridge ward or, more commonly, on the collar ward which is on the bridge ward. Therefore, any key having a collar near the mid-point of the bit (Fig. 79a) can only have served with a plain stock lock. This point is also well illustrated by Streeter (1970: Figs. 9-11).

Category 2 (Figs, 3, 4)

The one complete example of a plain stock lock available for consideration was removed from a standing structure and is somewhat atypical in its form. The bolt tail, instead of being flat and relatively wide, is a relatively narrow, rectangular bar. The width is insufficient to cut notches for the tumbler or to provide the talon. Consequently these facilities have been produced by riveting a number of pins through the bar. The tumbler, rather than having a catch, has a hole to fit over the appropriate pin. In this particular instance the bolt is of the double-throw type.

Plate Stock Locks

Plate stock locks are more common than plain stock locks on

archaeological sites in Canada and appear in more varieties of form. Since the mechanism is also assembled on a plate, it is more likely to occur as a more complete unit in an archaeological collection.

Category 1 (Figs. 5-7)

As with all lock bolts for plate stock locks, the tail is substantially narrower than the head (Fig. 6b). The head is a single block with the tail forge-welded to it. The end of the tail has a short section bent at right angles, towards the main plate. The lower edge of the tail has a rounded projection or cam into the centre of which is cut a notch as the talon. In contrast to bolts for plain stock locks, the notch is produced by making two cuts into the cam and bending the intervening tab toward the main plate. This bent tab serves as the lug to engage with the lug on the tumbler.

As will become obvious through the description of other lock types, the tumbler is a very standard shape. It consists of a rectangular bar with one end enlarged and perforated to fit over a pivot pin and with a rounded projection or cam along the lower edge near the end opposite to pivot. The cam serves as the belly on which the key presses to lift the tumbler. Along the upper edge, approximately at the mid-point of the belly, there is a lug perpendicular to the main plate. When this lug is aligned with a similar lug on the bolt, the bolt cannot be moved. The lugs are arranged so that the lug on the tumbler is either immediately in front of or immediately behind the lug on the bolt. The free end of the tumbler rests on a pin riveted through the main plate. The pivot pin is also riveted through the main plate. In this particular instance the pivot pin end is upset or riveted so that the tumbler cannot be removed. Such an arrangement is not entirely necessary since the tumbler is held in place adequately by the bolt situated on top of it.

As is the case for the tumbler, the tumbler spring is of a form common to many of the lock types being considered. It consists of a tapered, thinned, slightly curved strap attached by means of two lugs near its larger end being riveted through the main plate (Fig. 20c). The smaller end bears on the tumbler near its pivot point. Springs of this form are designated as "scotch" springs by Butter (1968: 232). Furthermore, it is stated that since "they were not very flexible it was a good idea to cause them to bear against a pivoted arm near the fulcrum where the movement was slight" (Butter 1968: 232). Unfortunately Butter (1968: 232) also characterizes them as being "the general kind found in antique locks of the middle ages in particular." Since this is the most common spring form present in the locks examined for this study, its antiquity is also considerably more recent than the middle ages.

The wards consist of a bridge ward with a collar ward and pin wards attached, and circle wards on the main and cover plates. There is a trace of copper alloy plating in the vicinity of the pin wards. The bridge ward is chevron shaped and has only the eye of the keyhole.

The metal portion of the housing consists of main, front and cover plates. The main and front plates are bent from the same piece of

stock. The main plate is trapezoidal in shape and has four fastening holes. The front plate has an additional two fastening holes. The cheeks are riveted through the main plate. The planes of the cheeks are not parallel and their bottom edges have been bent inwards at right angles. The orientation of the cheeks and the bent lower edges are common features, the significance of which has not yet been established.

The cover plate is basically rectangular; the lower corners and one upper corner have been clipped and one upper corner has a projecting, triangular spur. The spur is bent towards the lock bolt and in fact bears on the tail to hold the bolt in place. Attachment of the cover plate to the cheeks is by means of riveted lugs.

At the head end the bolt is guided by the rectangular hole in the front plate, the tail is guided by riding in a shallow, rectangular notch in the upper edge of a guide plate which is riveted through the main plate. The bolt is held in place by the spur on the cover plate.

The movement of the bolt is controlled either by the bent end of the tail or the lug on one side of the talon coming into contact with the guide plate.

Category 2 (Fig. 8)

This category is nearly identical to category 1. Slight differences exist in that the cheeks are oriented parallel to each other, the lower edges of the cheeks are not bent and there are no circle wards. Whether the differences in the form of the cheeks are of any significance is uncertain. The difference in the ward system is to be expected; in this case the absence of a type of ward would mean a simpler key or a less complex security mechanism.

Category 3 (Figs. 9, 10)

The bolt, tumbler, tumbler spring and main and front plates are similar to those of category 1. The wards are limited to a double bridge ward and a circle ward on the main plate; therefore, the ward system is not symmetrical and the lock was presumably intended to be operated from one side only. The cheeks are similar to those of category 1 but are parallel. The cover plate is rectangular with a convex lower edge and one upper corner clipped. The other upper corner of the cover plate has the remnants of a spur although in this case it bears on the tail near the tail's end rather than near the head as is the case for categories 1 and 2. The cover plate has a circular copper alloy escutcheon around the eye of the keyhole. There is no evidence of the main plate having had a similar escutcheon.

The operation is identical to that of categories 1 and 2. A slight variation is that the lugs on the upper edge of the guide plate, lugs left by the production of the guide notch, have been upset to hold the bolt in place.

The presence of a keyhole escutcheon only on one plate results in the mechanism being assymmetrical; the distances from the surface of the escutcheon to the bridge wards are not the same as the distances from

the surface of the main plate to the bridge wards. The key would have to be cut slightly differently for use from each side of the lock; the bridge wards on the key would have to be in slightly different locations. This asymmetry, in association with the absence of a circle ward on the cover plate, is a strong indication that the lock was intended to be operated only from one side. The location of the escutcheon, which would serve as a bearing, suggests this to be from inside the room in which the lock was being used.

The context for this lock gives it a definite date in the 19th century, probably during the second or third quarter. The use of copper alloy for an escutcheon may also be a feature of the 19th century as has been suggested for padlocks (Noël Hume 1970: 251).

Category 4 (Fig. 11)

The identification of this incomplete lock as a plate stock lock is not definite. It is included here on the basis of the slightly trapezoidal shape of the main plate and the absence of holes for rim rivets which would be required for the attachment of an iron rim.

The bolt is missing, but the tumbler and tumbler spring are of the common form described for category 1. The ward system consists of a bridge ward and other attached wards including a collar ward. The bridge ward is rectangular and contains only the eye of the keyhole. The cheeks are flat and parallel.

The system of guides and stops is not well represented. The only item remaining is a staple which presumably would have straddled the end of the bolt tail.

Category 5 (Figs. 12-14)

This is a lock complete with its wooden housing and sheet-iron ornamentation. It differs from most other plate stock locks in a number of ways.

The bolt has a tail which is narrower than the head, but the proportions are different. Immediately at the head, the tail is the same width as the head, only becoming narrower as it approaches the cheeks. The end of the tail is bent at right angles towards the main plate and the centre of this bent section has a slot cut into it.

The tumbler and tumbler spring are of the common shape described for category 1.

The ward system consists of a bridge ward with various other wards attached. There is no collar ward.

The main and front plates are bent from the same piece of stock; the main plate is rectangular. The cheeks are non-parallel and both the lower and upper edges have been bent inwards. In this instance the bent sections of the cheeks have been slotted to fit over the end of the bridge ward, presumably to strengthen the ward. The cover plate is rectangular with a convex lower edge. The upper edge of the cover plate is curved toward the main plate, but rests on the bolt tail only at one point. Both the main plate and cover plate have an ornamental escutcheon of yellow metal riveted to them (Figs. 12, 13). The

escutcheons provide a bearing surface for the key, but during use of the lock the ornamentation would not be visible. The exterior of the wooden block has an ornamental sheet-iron plate nailed at each end of the front surface (Fig. 12).

At the end of the tail, the bolt is guided by having the slot of the bent end riding on a horizontal rail which is riveted through the main plate with a rectangular lug. The withdrawal of the bolt is stopped by both the shoulder on the tail contacting a cheek and the slotted end contacting the enlarged end of the rail.

This lock is reputed to be from the original blacksmith's shop at Moose Factory, which would give it a date in the last quarter of the 17th century. Although it is still a plate stock lock, there are differences which make it difficult to accept an early date, but which do not make it possible to argue conclusively for a later date. The presence of yellow metal escutcheons suggests a later date, but there is insufficient evidence for the introduction of this material for escutcheons. The mechanism is basically of the common form, but the bolt differs in having a larger head and a much wider tail. The use of a horizontal rail to guide the bolt tail end is known for rim locks, but does not appear on any other stock locks considered here.

Category 6 (Figs. 15-17)

This is a lock which combines the processes of forging and casting in its manufacture. The bolt consists of an iron or steel tail with an iron head cast onto it. The tail has two notches along the upper edge, near its end, for the tumbler lug. Near the end of the tail there is also a rectangular slot or lanket hole which serves as the sole guide and stop for the bolt. The talon is cut out of the lower edge of the tail.

The tumbler is cast of iron. It is pivoted at one end and has a lug at the other; the lug rests in either one of the notches along the top of the tail. The spring is still of the scotch variety, but has not been finished to the same extent as for most other locks considered; it has been neither thinned nor tapered.

The ward system consists of a bridge ward with associated collar and pin wards all cast as a unit in brass. The main plate is rectangular with a semi-circular end. The cover plate is oval with the keyhole open at the lower end. The exterior of the main, front and cover plates have had "paint" applied to them. The cheeks are flat and parallel. The housing is a plain block of wood (Fig. 15). The mortise in the block has been cut by machine and all exterior surfaces, except the ends, have been machine planed. The lock is attached to the housing with six round-headed wire nails.

The stops and guides consist entirely of a single guide plate riveted through the main plate near the end of the tail. The upper edge of this plate has a lug which fits through the lanket hole of the bolt tail, a washer is then fitted over the lug and the end of the lug is riveted, thereby holding the tail in place. The throw and withdrawal are both controlled by the limits of the lanket hole.

This is likely a factory-produced lock as suggested by the machine finishing of the block, the combination of forging and casting, the absence of finishing such as tapering and thinning of the spring, and the type of technology reflected by the use of a lanket hole and riveted lug on the guide plate. The pivot pin for the tumbler is also a circular rivet with a fla circular head, probably machine made, and a contrast to other pivot pins. The use of wire nails suggests a date no earlier than the second half of the 19th century. The lock has never been used as there is no indication of wear on the plates and there are no fastening holes in the housing.

Category 7 (Fig. 18)

The identification of this item as a plate stock lock is indefinite. It is included here on the basis that it is possibly a door lock and does not appear to have had any form of metal rim plates attached to it. It could either have been attached to a wooden housing or been used as it is on the surface of a door.

The bolt is forged from a single piece of stock; the head is only slightly thicker than the tail and at the head-tail juncture there is a projection on the lower edge of the tail, making the tail wider than the head. The upper edge of the tail has a single notch for a tumbler catch. The lower edge of the tail has a semi-circular talon. In contrast to most other locks, the tail is placed adjacent to the main plate, leaving no room between it and the main plate for such parts of the mechanism as the tumbler.

Both the tumbler and tumbler spring are missing. The pivot pin for the tumbler is still present and its length suggests that the tumbler was manufactured from a strap, possibly similar to the tumbler of rim lock category 5. The belly of the tumbler would have been "in front" of the bolt tail. The presence of a single notch on the tail indicates that either the tumbler held the bolt only in its thrown or withdrawn position or, more likely, the tumbler had two catches. The attachment for the tumbler spring remains and indicates a scotch type of spring.

A single circle ward remains on the main plate.

The housing consists of a rectangular main plate with one end bent for the front plate. Circular holes on either side of the keyhole are for the attachment of a cover plate, either with bolts or rivets. A hole in the main plate, along the lower edge below the keyhole, cannot be explained. The end of the keyhole slot is in the form of an asymmetrical, inverted f.

The tail is guided by a single square staple straddling it near its end. The stops are provided by the projection on the lower edge of the tail, at the head, contacting the front plate, and a lug adjacent to the talon, contacting the guide staple.

The form of the bolt and the fact that the tumbler was located in front of the tail rather than behind are two features of this lock which are not shared with most other locks considered; however, it is not certain whether this means a different country of origin, a different period of manufacture, a different function, or nothing more than a different style.

Category 8 (Fig. 19a, b)
This category consists of a single part, the lock bolt, and its description is based on a difference in the termination of the tail. The end of the tail has a small vertical projection on the upper edge. The end may also have been bent, but this information is now lost. The presence of the projection suggests a form of stop different from that for categories 1-3.

Rim Locks
The term "rim" is "applied to articles intended to be applied to the surface of doors, windows, etc." (Towne 1904: 27); a rim lock is therefore one applied to the surface of a door (Towne 1904: 28) and furthermore is one in which the mechanism is enclosed in a metal housing (Hughes 1957: 100). Its major difference from a stock lock is in the form of housing.

The rim lock, as discussed by Streeter (1974), was a common lock form of the 18th and 19th centuries. Its antiquity beyond the 18th century is not established; Streeter (1974) has not included the question in his objectives and Salzman (1967), for example, does not specifically mention rim locks. It is questionable whether the plate locks mentioned by Salzman (1967: 302-3) were rim locks rather than plate locks as discussed in the glossary.

The rim lock, as represented by the collection considered here as well as discussed by such sources as Streeter (1974), provides a greater variety of services than the stock locks considered. Although it is required that each have a lock bolt, the majority also have latch bolts and some also have night bolts.

The rim locks can be divided into two major groups, those which are forged from iron and those which are cast, usually from iron but occasionally involving copper alloys. The cast locks may involve forged or stamped items, but most parts other than springs are cast. Discussion of lock categories begins with the forged examples and then proceeds to the cast-iron examples; however, the sequence of lock categories is not a reflection of any temporal sequence.

Category 1 (Fig. 21)
This is a one-bolt lock with a dead bolt. The bolt is approximately of uniform width, the head having been produced by folding and forge-welding the end of a strap. The talon and bolt stump have been produced by one operation, two lateral cuts have been made in the lower edge of the tail and by bending the intervening tab of metal a gap has been left for the talon with the bent piece becoming the bolt stump. On the two examples here the corner on one side of each talon has been clipped. The end of the tail has been bent at right angles and notched in the centre. The tumbler and tumbler spring are as already described for plate stock lock category 1. For the sake of convenience, such a

tumbler and spring arrangement will henceforth be referred to as "common."

For both examples, no wards remain; however, both cheeks indicate the presence of a bridge ward and the main plate indicates the absence of wards attached to it.

The housing consists of front and back plates continuous with the main plate and the top and bottom plates attached with rim rivets. In both instances the cross-section of the top and bottom plates is triangular.

The operation is relatively simple with most of the guides and stops provided by a single feature. Except for the hole in the front plate, the operation is controlled by a horizontal rail, attached perpendicular to the main plate. One end of the rail butts on the back plate and the other end is bent at right angles. The slot in the end of the tail rides on the rail and is guided by it. Stops are provided by the ends of the rail, in one direction the tail contacts the back plate and in the other direction it contacts the bent end of the rail. The bolt tail is held down by the cover plate immediately above it.

Category 2 (Figs. 22, 23)

This is a one-bolt lock, similar to category 1 except for two features. The bolt, although not present, would also have been similar to that of category 1. The differences lie in that the top and bottom plates have a longitudinal channel on the outside surface and that the main plate has a copper alloy keyhole bush on the exterior (Fig. 22). The channel-shaped sides are presumably rolled rather than forged and thus should not date earlier than the 19th century, as discussed by Streeter (1974: 51).

Category 3 (Figs. 24-26)

This is a forged, one-bolt lock, similar to category 1 except for three features. Because this is a lock from a standing building, not having been subjected to any corrosion, it is obvious that the sheeting for the housing has been rolled and much of the original black "paint" remains. The edge of the back plate has been reinforced by being bent over. The outer surfaces of the main and cover plates have a plain, oval, copper alloy keyhole escutcheon. The cover plate (Fig. 26c) is only aligned by the lugs on the cheeks and is attached by two bolts. In this instance the cover plate holds the bolt in place although somewhat loosely. The operation of the bolt is identical to that of category 1; however, the end of the bolt has been widened and notched (Fig. 26b), a feature which serves no apparent function.

Category 4 (Figs. 27-28)

This is a cast and forged one-bolt one-sided lock with a dead bolt. Some of the parts have been cast, but of a copper alloy rather than iron; it is included with the so-called forged locks because its form

and construction are closer to that of forged locks than that of cast-iron ones.

The bolt has been cast and finished by cutting, filing and hammering. The talon appears to have been made by cutting and breaking out the intervening tab. The bolt stump has been cast as a unit with the remainder of the bolt. The lanket hole in the tail may have been cut out and has been finished by filing. The head, outer surface and edges of the tail have been smoothed; the inner surface of the tail is rough and bears definite forging marks in the area around the lanket hole.

The tumbler and its spring are of the common form with the tumbler having been cast instead of forged.

The ward system is relatively simple with a circle ward on each of the cover and main plates. With this being a one-sided lock, the wards can be asymmetrical.

The housing is all cast, but, in contrast to the cast-iron locks considered later, it has been designed and assembled as a forged lock. The main, front and back plates have been cast as a unit. The top and bottom plates have each been cast separately and attached to the main plate with pseudo rim rivets. The rim rivets have been cast with the side plates rather than riveted through, but still have a tenon to pass through the main plate. The cover plate is of rolled sheeting, possibly copper rather than an alloy, and is aligned on the tenons of the cheeks and held down with two bolts. The back of the cover plate has a flat spring to bear on the bolt tail near the lanket hole. The cheeks are cast and are parallel with an inturned top and bottom edge. A drill pin is riveted through the main plate.

The operation of the bolt is controlled by a single cast stump, riveted through the main plate, and having a tenon passing into the lanket hole of the tail. The tenon guides the tail and the ends of the lanket hole are the stops. The spring on the cover plate keeps the tail in place on the stump.

The lock also has a cast, covered keyhole escutcheon associated with it. The shape is oval; there are three countersunk fastening holes in the escutcheon and the cover is pivoted.

The front and back plates, escutcheon and cover are all stamped with a broad arrow in a circle, associating the piece with the British Board of Ordnance.

The context for this item is from a powder magazine door in a blockhouse constructed in 1813.

Category 5 (Figs. 29, 30)

This is a forged, one-bolt lock with a double-throw dead bolt and is the only example of a lock included here which is considered to be of French origin (for reasons to be discussed after completion of the description).

The bolt consists of a relatively large head joined to a narrow tail. The lower inside edge of the head has a projection, serving as a stop on the front plate. The upper edge of the tail has three notches, the lower edge has three projections to produce a double talon. The

lower edge of the tail, near the head, has a small square projection. This projection as well as adjacent areas of tail and head are plated with a copper alloy. The purpose of the lug and plating is not known. The end of the tail may be incomplete.

The tumbler and spring are bent from a single piece of metal, the spring being a V-shaped feather spring pivoting at its apex and the tumbler being a continuation of one end of the spring bent back (Figs. 29a, 30b). Frank (1950: 51) describes this arrangement as the predecessor of the tumbler, but since it constitutes a movable obstruction, although attached to its spring, it can still be considered as a tumbler.

The system of wards is largely unknown. One attachment lug, probably for a circle ward, remains adjacent to the keyhole area. Rivets and fragments of a plate near the lower edge of the main plate suggest the location of rake wards.

For the housing, the main and front plates have been bent from the same stock. As illustrated (Fig. 29d), the positions of the two fragments of main plate are approximately correct and these positions have been used to arrive at a reconstruction of the overall size and appearance (Fig. 30). The back plate was not bent from the main plate stock since the back edge of the main plate retains one hole for a rim rivet. The presence of a single hole also indicates that the back was continuous with the top and bottom plates, a form described by Prechtl (1830-55, 12: 451). The lock may have had cheeks since one attachment lug remains in approximately the correct position, but it may also have had a one-piece cover plate in which cover, cheeks and fastening plates are bent from one piece of metal and the part is attached with rivets through the fastening plates.

The operation is largely unknown. Other than the hole in the front plate, there are no visible guides. The only definite stop is the lug on the head, contacting the front plate.

A second and more fragmentary example of such a lock exists, but this provides no further insight into the form or operation. Although this second example has what is likely a cover plate, it is not possible to establish a means of attachment.

At the outset it was suggested that this lock form could possibly be French. It is from an archaeological context which very likely has a French association of the mid-18th century. The form is also different from other locks considered. For example, the proportions of the housing are noticeably different even on only a casual inspection. Since proportions are not being discussed in great detail here, the differences even when obvious can not be discussed to any extent. A final and probably stronger point is in the form of tumbler and spring. This is the only lock here on which such an arrangement occurs. It is not a form present on locks considered to be English, such as in the discussions by Streeter (1974); however, it is the common form of spring illustrated for door locks by Duhamel du Monceau (1767: Pl. 20, Fig. 20, for example) as well as for furniture locks and padlocks. In total, a French association is suggested for this lock form.

Category 6 (Figs. 31-33)

This is a forged, one-bolt lock with a dead bolt. The bolt is of uniform width with the head folded and forge-welded. The talon and bolt stump have been produced by cutting and bending as described for previous categories. A lanket hole is present in the tail.

The tumbler and its spring are of the common form. The wards consist of a bridge ward and other indeterminate wards attached to it.

The housing is similar to others already described; the main, front and back plates are bent from one piece and the top and bottom plates are straps attached with rim rivets. The edge of the back plate is thickened by being doubled over. The cheeks are flat and parallel. The cover plate is rectangular with one corner cut out to fit around a guide staple (Fig. 33d). This cut-out corner is a feature common to a number of lock categories yet to be described. The edges on the outer surface of the cover plate have been bevelled, except at the corners. The cover is aligned on the cheeks and held down by two bolts.

The bolt rides on a guide plate having a tenon fitting into the lanket hole of the tail. It is held in place by two square staples straddling it, one near the end of the tail and the other at the front plate (Fig. 32). The ends of these staples are bent out and perforated and the staples are held in place by being bolted to the main plate (Fig. 33c). The stops are provided entirely by the guide plate and lanket hole. In this instance the two guide staples are not entirely necessary since the bolt would be held in place by the cover and front plates; however, the staples may offer a smaller contact surface than the cover plate and thereby reduce friction.

Category 7 (Figs. 34-37)

This is a forged two-bolt lock with a dead-lock bolt and is one of the few locks considered here which approaches the appearance of English iron rim locks illustrated by Streeter (1974: Figs. 3, 4). The lock bolt in this instance (Fig. 36c), is of the double-throw form. The head has been folded and forge-welded at the end of a strap, the tail begins as the same width as the head, but narrows beyond the talons and has a shoulder on the upper edge near the end (Fig. 36c). The talons and bolt stumps have been produced by cutting and bending.

The latch bolt (Fig. 36b) is of uniform width, the head may have been formed by folding and welding. The bolt foot has been produced by two bends in the end of the tail, resulting in a vertical section perpendicular to the main plate. The bolt foot rides on the main plate and keeps the tail a uniform distance from the main plate.

The tumbler and its spring are of the common form. The wards consist of a bridge ward and others attached to it.

The housing consists of main, front and back plates bent from one piece with top and bottom plates attached with rim rivets. The cheeks are flat and parallel, and each has a lug or tenon on its forward edge. The cover plate (Fig. 36d) is rectangular with one corner cut out to fit around the guide staple; it is aligned by the cheeks and fastened with two bolts.

The service of guide is provided by a guide plate and guide staple. The tail of the lock bolt rides on the guide plate and is held in line on one side by a lug on the guide plate and on the other side by the guide staple. The latch bolt tail is held between the guide plate and staple. The throw and withdrawal of the lock bolt is stopped by the shoulders on the tail as these contact the guide plate or staple. The throw of the latch bolt is stopped by the bolt foot contacting the follower and the withdrawal is stopped by a stump on the main plate behind the bolt head. The latch bolt is operated by a spindle and symmetrical follower acting directly on the bolt foot. Butter (1968) does not provide a specific name for this action, but it would be a type of plain action (Butter 1968: 211) in which a single spring serves both to throw the bolt and return the follower and spindle to its proper position after being turned. One end of the spindle is threaded and the other is riveted; it was likely provided with knobs which, in this case, have been melted off in the fire which destroyed the building on which the lock was located.

The sheeting of the housing appears to have been forged rather than rolled. This may also be reflected by the fact that the top and bottom plates are flat in cross-section rather than triangular. The latter cross-section would be more difficult to forge if it were ever attempted; however, the lock is from a building probably erected in or around 1812 and finally destroyed by fire in 1870 (Ingram and Nolan 1977: 149).

A second example of such a lock (Fig. 37a) can be considered as identical since it differs only in its arrangement of wards and in having a single-throw bolt. This lock provides the additional information that the spring for the latch bolt was a feather spring. It also has the idiosyncracy that the follower has been subjected to a long-term malfunction: when turned in one direction, the horn slipped over the bolt foot rather than moving the bolt. The result is a shortened horn and a hollow worn into the bolt foot.

Category 8 (Figs. 38-40)

This is a forged, three-bolt lock with a dead-lock bolt, similar to those considered by Streeter (1974: Figs. 3, 4). It is also similar to category 7, differing primarily in having a third bolt. The form of some parts must be left to speculation since not all are present; however, the features present suggest the missing parts to be similar to those of category 7. For the latch bolt, the arrangement of follower, stop and feather spring are as those for category 7. The square guide staple is also similar although only one side of it remains in only one of the examples. The presence of the guide staple for the second example is indicated by the presence of holes for the attachment of bolts. The handles for the night bolts are both cast of yellow metal. One of the night bolts has a flat spring behind it. For one of the locks, the front plate has at some point become detached and been re-attached with a copper alloy bracket, presumably in the absence of a qualified person to make a proper repair or the unavailability of a replacement lock.

Category 9 (Figs. 41-42)
This is a forged, three-bolt lock with a dead-lock bolt, in a copper alloy case. Because of extensive corrosion, the lock cannot be taken apart and therefore it is not feasible to examine all of the parts in adequate detail. From what can be observed, the bolts appear to be similar to those of categories 7 and 8. The operation of the latch bolt is similar in terms of the form of follower, but in this instance the spring works through an intermediate arm, an arrangement which Streeter (1974: 51) characterizes as being no earlier than the 19th century. The handle on the spindle is a drop-ring type.

The case consists of two components, the one iron, the other cast yellow metal. The entire lock mechanism is first mounted on a main plate with attached front plate, in a style similar to plate stock locks. This is then set into the yellow metal box, attached by slipping the back end under a small pin on the back of the box and putting a small bolt through the front of the box into the iron front-plate. The context for this lock is possibly second half of the 19th century. The lock is similar to others at the same site and located on a building constructed during the second quarter of the 19th century.

The brass-cased lock is presented by Price (1856: 809) as being a substitution for the earlier and "unsightly" iron rim lock for use on "doors of parlours and even drawing rooms." The further point is made that the brass-cased lock was in turn replaced by the mortise lock. Unfortunately, no dates are associated with such a sequence. Since the mortise lock was available at least by the early 19th century, it is likely also to have been a matter of personal preference whether brass rim locks or mortise locks were used in specific applications.

Category 10 (Figs. 43, 44)
This is a forged, three-bolt lock which can be characterized generally as a Carpenter type for reasons to be explained shortly.

The lock bolt is forged from a strap, one end being folded and forge-welded to form the head. The talon and bolt stump are cut and bent as described for other locks. The tail maintains the width of the head to a point past the talon, where it becomes narrower. The end of the tail has a lanket hole.

The latch, instead of being a bolt or a sliding part, is a bar, a pivoting part, with its head perpetually projecting outside of the case. The head is bevelled so that it rises as it passes a specially shaped catch on the door frame. The latch-bolt spring is a simple feather spring above the bolt tail.

The night bolt is as for categories 8 and 9; however, the handle is missing.

The housing is of the common form with main, front and back plates bent from one piece, and top and bottom plates attached with rim rivets. The top and bottom are channel plates (cross-section) and the rim rivets are short to provide points on which to set the cover plate. The cheeks are flat and parallel. The cover plate is full-sized to close the

entire case; it rests on the rim rivets and cheeks and is attached with two bolts.

The tumbler and its spring are of the common form. The wards consist of a bridge ward and others attached to it.

The lock bolt is guided and stopped by means of a lug, on a guide plate, working in the lanket hole. The end of the latch bolt is set on a lug on another guide plate. For both bolts a washer has been set over tne lugs and the lugs have then been riveted. Although the spindle and follower are missing, they could have been similar to those of category 7 with the follower oriented horizontally rather than vertically, as illustrated by Trump (1954: Fig. 2).

The Carpenter-type lock is identified on the basis of several features, not all of which are represented on this object. As characterized by Trump (1954), it has a distinctive, pivoted latch bar, rather than a sliding latch bolt, and a circular brass plate, identifying manufacturer or patentee, on the outside of the main plate. This lock has the appropriate latch bar and, in fact, did have the brass plate, now lost, leaving only the lug with which it was riveted to the plate.

The Carpenter-type lock dates to a British patent of 18 January 1830 registered by Carpenter and Young (Price 1856: 423; Trump [1954]). As described by Hebert (1836, 2: 108), the patent included several features, the first of which was a double set of levers, one set attached to the bolt and the other to the case, thereby creating, or at least attempting to create, additional security. The second feature was a latch bar such as seen here; however, this latch was associated with a tumbler which could be operated by a key or a handle so that operation of the latch bar could be further controlled. Of these features, only the latch bar is present and then only to be operated by a spindle and follower. The remainder of the lock has the simple security of a common form, single-acting tumbler and a few wards. The additional security included in the patent has not been included.

The idea of a pivoted latch rather than a sliding latch bolt can not be said to have been original with the Carpenter and Young patent although the specific form given to the latch bar may have been. Streeter (1970) discusses a variety of English spring latches of the 18th century, all consisting of a spring-loaded latch bar operated by a follower and spindle with knobs or ring handles. In some instances a night bolt is also included. Such latches could, and probably did, use the common "figure 4" type of catch as used for thumb latches. Another form of pivoted latch is represented by the Pennsylvania-German locks discussed by Kauffman (1966). These are rim locks having at least a lock bolt and latch bar and dating at least from the early 19th century. The operation of the latch bar is not too obvious from the available illustrations, but consists of a handle which has to be pushed down rather than having a spindle to be turned. Whether the handle connected directly to the latch bar or went through an intermediate follower is not clear.

For the Carpenter-type lock, there are certainly predecessors and it is entirely likely that the idea was derived from spring latches adapted to a metal housing and to be associated with a lock bolt;

however, since the particular Carpenter-type lock represented by the example here does not include any features of the patent other than the latch bar, there is the question of why the lock should have gained acceptance over the earlier two-bolt rim locks which provided exactly the same amount of security. Through its original patent, the Carpenter-type lock may have gained a reputation which, for locks such as the one here, was not warranted. An alternative, implied by Trump (1954), is that the simpler types, not having the security outlined in the patent, predate the patent and were simply introduced as an alternative to the existing two- or three-bolt rim lock.

Category 11 (Figs. 45-47)

This is a second example of a forged, three-bolt Carpenter-type lock. In most features it is similar to category 10. Two differences are apparent. The lock bolt appears to have been forged from heavier stock; that is, the head is a solid block with the tail having been thinned down from stock approximately the size of the head. Both bolts appear to be held on their guide plates not by washers and riveted lugs but by circular nuts on threaded lugs. The advantage of the latter feature is of course that the bolts can be removed if the need should arise.

Category 12 (Figs. 48-50)

This is a cast-iron, two-bolt lock with a dead-lock bolt. All of the available parts, except for the spring, have been cast.

The lock bolt (Fig. 50b) has a head thicker than the tail. The upper edge of the tail has two notches for the tumbler, the talon is in the lower edge and the end of the tail has a lanket hole. On the basis of the form of the follower, the latch bolt, although now missing, can be said to have a bifurcate tail end, such as required for a frog action. It is not definite whether the latch bolt was reversible.

The tumbler is still similar to those of the previous rim locks with its pivot at one end and a stump to catch the notches of the bolt tail. It is still a single-acting tumbler. The tumbler spring is flat. There are absolutely no wards.

The main part of the case, everything except the cover, has been cast as a unit. This includes the guide plate for the lock bolt, the pivot for the tumbler and other stumps for the spring or attachment of the cover. The cover is full-sized (Fig. 50c). The case retains imitation rim rivets, in this case shorter than the width of the top and bottom and serving only as points on which to set the cover. The cover is attached by a single bolt screwed into a threaded stump. The main plate retains a small copper alloy pin through it, likely associated with a feature such as a name plate, on the outside of the plate. The case bears some traces of black "paint." In contrast to most other cast-iron rim locks and similar to all other forged rim locks already considered, this lock does not have a symmetrical housing, the front plate, on one side, projects slightly beyond the surface of the case (the cover plate, to be more specific). This means that the lock could not be attached with either surface to the door. It could be used on

either side of a door only by being turned upside down for one side or the other and, therefore, it would not be necessary to have a reversible latch bolt.

The lock bolt is guided and controlled entirely by the lanket hole and guide plate. It is held also by a small lug on the cover plate projecting down onto the tail at a point below the lanket hole. Of necessity, the follower is asymmetrical, one horn being longer than the other, and possibly resulting in the latch bolt being operated by a shorter turn of the follower in one direction than in the other. A scar and associated wear marks around it behind the follower indicates the location of a stump and some other feature, presumably a spring, both presumably associated with the latch bolt.

The use of cast iron for locks is presumed to have been introduced during the 19th century although it is not certain exactly how early. Price (1856: 865) credits a Mr. Mason of Bilston with having introduced cast iron into the lock trade in 1815, but this first effort was abandoned in 1817. Later efforts were begun in 1830 and 1836 but again abandoned (Price 1856: 866). Eventually, some time between 1836 and 1856, casting was carried out successfully in Willenhall (Price 1856: 866). Price (1856: 866) notes three ironfounders in Willennall and Butter (1931: 122) mentions the existence "in the early sixties" of "at least one manufacturer." Whether casting was first introduced in Britain or the U.S. is uncertain; Price (1856) makes no mention of this and Butter (1931: 122) acknowledges that he does not know. Towne (1904: 39) contends that, for reasons of economy, manufacture in America "almost from the beginning...began...the substitution of cast for wrought metal." However, no dates are offered by Towne and the reader is left to decide whether this applies to the 18th century or only the 19tn century.

Category 13 (Figs. 51-53)

This is a cast-iron, one-bolt lock with a dead-lock bolt. The bolt tail is slightly narrower than the head and the talon and a bolt stump are at the end of the tail. Between the talon and bolt head there is a lanket hole and a pseudo lanket hole; that is, a slot having the appearance of a lanket hole but not serving the same function. The tail is raised slightly from the surface of the main plate by a thickening of the head and a lateral ridge at the tail end, to reduce the amount of contact between bolt and main plate. The tumbler is single-acting and gated with a concave belly (Fig. 53b). This type of tumbler cannot be overlifted; the bolt stump would come into contact with the bottom of the gating. The spring is flat with one end wrapped around the pivot end of the tumbler and held in a slot in the tumbler (Fig. 53c).

The wards, if they can be considered as such, consist of two small projections on the inner surface of the cover plate.

The housing, except for the cover (Fig. 53a), is cast as a unit with the main plate projecting slightly beyond the rim on all sides except the front. The cover rests on the rim and duplicates the shape of the main plate. The main plate has two interior stumps, one serving as the tumbler pivot and the other serving as guide and stop for the

bolt as well as being threaded to bolt on the cover. The housing is symmetrical; the shape and ornamentation on the exterior of the main and cover plates are identical to the point of having an imitation bolt head on the main plate, duplicating the bolt head for attachment of the cover plate.

The bolt is controlled by the lanket hole and stump. The pseudo lanket hole fits over the tumbler pivot, but does not make any contact with it.

Category 14 (Figs. 54, 55)

This is a one-bolt lock with a dead-lock bolt combining cast iron, copper alloy and a sheet-iron tumbler. The bolt is of cast copper alloy. The tail has an irregular outline to allow it to fit around three stumps which serve as its guides and stops. The tail is raised slightly from the main plate. The talon and bolt stump are at the end of the tail. The tumbler is a gated, double-acting type. The spring is flat, wrapped around the pivot end of the tumbler and held in a slot in the tumbler.

The wards consist of two small projections on the inner surface of the cover plate adjacent to the keyhole.

The housing is cast in two parts. The main plate has three stumps, one for a tumbler pivot, one threaded for attachment of the cover, one serving for the stops, and all three serving as guides. The main and cover plates are slightly ornamented and project slightly beyond the rim.

Category 15 (Fig. 56)

This is a cast-iron, three-bolt lock with a dead-lock bolt. The bolt tail is slightly narrower than the head and the end curves up to accommodate the talon. A lanket hole is situated between head and talon. The bolt stump is on the upper edge of the tail, above the talon. The latch bolt is absent. The night bolt is located between the lock and latch bolt and consists of a rectangular bar with a lug on two opposite sides.

The tumbler and all springs are missing. The warding consists of a single bullet in each keyhole.

The housing is composed of three parts. The main body, exclusive of the top plate, is a unit and the top and cover plates are each separate pieces. The top plate is made so that it can be pivoted upwards after removing one of the fastening screws of the lock. The interior has three stumps and two irregular projections. One stump serves as tumbler pivot, one works in the lanket hole and the third is threaded to bolt on the cover. The exterior of the case is symmetrical, ornamented with ridges.

All controls for the lock bolt are by means of a stump in the lanket hole. The operation of the latch bolt could be some type of frog action as suggested by the follower. The follower is asymmetrical, but in this instance it appears that one horn is shorter due to wear. The pivoting top plate allows the top of the case to be opened without

having to open the remainder of the case. The purpose of this is presumably to expose the latch bolt and allow it to be reversed.

One cover has an illegible mark. The contexts for the two examples of this form of lock date them in the 1870s or 1880s.

Category 16 (Fig. 57)

This is a cast-iron, two-bolt lock, represented only by an incomplete case. The main body of the case is a unit, the cover plate is in two separate pieces (only one is present). The purpose of such a cover plate is to allow reversal of the latch bolt without exposing the remainder of the mechanism and the advantage of this is in not risking the possibility of having the remainder of the parts fall out. The outside of the main plate has a mark, the most legible part of which is AUGUST, likely part of a patent date. The interior has the number 2. The exterior of the case has extensive remains of black "paint." The general context and date for this item is the same as for category 15.

Category 17 (Figs. 58-60)

This is a cast-iron, two-bolt lock with a dead-lock bolt. The lock-bolt tail is slightly narrower than the head and of irregular outline. The bolt stump is on the top edge and the talon is at the end of the tail. The latch-bolt tail is symmetrically bifurcated (Fig. 60c).

The tumbler is a bar pivoted at one end and having a stump (Fig. 60e). The belly is straight. The tumbler spring (Fig. 60f) fits into a slot at the pivot end of the tumbler, then extends upwards to act on the back of the latch-bolt head.

The ward system consists of two small projections inside the cover plate.

The case is in two parts, the main body and the cover. The interior on the main plate has a total of five stumps. The outsides of both main and cover plates are marked "GURNEY," and the inside is marked "36."

The lock bolt rides between two stumps which, in association with the bolt stump and a lug on the lower edge of the tail, provide the stops. The latch bolt is a plain, frog-action type. A stump adjacent to the follower limits its turn to 45 degrees.

Category 18 (Figs. 61-63)

This is a cast-iron, two-bolt lock with a dead-lock bolt and a catch on the latch bolt. The lock-bolt tail is straight and slightly narrower then the head (Fig. 63h). The talon is at the end with a bolt stump above, on the top edge. The latch bolt has a frog or bifurcate end and two spurs between the head and bifurcation (Fig. 63c).

The tumbler is single-acting, consisting of a straight bar with a tumbler stump on a vertical extension (Fig. 63f). The spring is straight (Fig. 63g) and is threaded around three stumps to act both on the tumbler and on one of the spurs on the latch bolt.

The wards consist of two small projections on the cover plate.

The case is in two pieces, the main body and the cover. There are a total of six stumps on the main plate, one threaded to bolt on the cover. The case is symmetrical, ornamented with a series of ridges and finished throughout with black "paint."

The lock bolt is controlled by two stumps. The throw is stopped by the bolt stump and a small projection on the lower edge of the tail, each contacting one of the guide stumps. The withdrawal is stopped by the back of the case. The arrangement of the spring allows the tumbler some free play. In fact, the tumbler can be lifted to clear the bolt stump before it comes into contact with the spring. The latch-bolt operation is a plain, frog-action type. The latch bolt also has an L-shaped catch above it which can be pivoted to rest behind one of the spurs on the bolt tail and therefore prevent withdrawal of the bolt. This device serves the same purpose as a night bolt. The latch-bolt catch is held by a coil spring. The tumbler spring is wrapped in paper, for an unknown purpose.

Category 19 (Figs. 64-66)

This is a cast-iron two-bolt lock with a dead-lock bolt and a latch catch. Its form and operation are similar to that of category 18. The most obvious difference is that the latch catch is a straight arm on the back of the lock. The case is marked "BELLEVILLE" on both main and cover plates.

Cast-iron locks of this general form are similar to mortise locks in size and thickness; however, they can be recognized as rim locks on the basis of two features. One of these is that the front plate does not have any means of attaching the lock in a mortise. For a mortise lock, the front provides the only surface for attaching the lock to the door and therefore it must have short extensions or flanges extending beyond the top and bottom of the case. Each flange has at least one hole for a fastener. The second feature is that any lock with a device, such as a latch catch, to be operated from outside of the case must be surface-mounted to make the device accessible.

Category 20 (Figs. 67-69)

This is a cast-iron, two-bolt lock identical to category 18 except for the absence of the latch catch. The knobs and spindle are also present in this case. The spindle ends are drilled and tapped. The knobs are ceramic ("porcelain") tops on cast-iron necks. The necks bear black "paint."

Category 21 (Figs. 70-72)

This is a cast-iron, two-bolt lock with a dead-lock bolt and a latch catch. The bolt tail has a pseudo lanket hole, a talon at the end and a bolt stump above the talon. The latch bolt is hooked onto a crank.

The tumbler is a flat, double-acting type with a spring attached in a slot at the pivot end of the tumbler. The tumbler spring is set by being hooked behind a stump. The latch spring is flat, running past two

stumps and acting on a projection on the crank. The latch catch also had a flat spring, now missing, between two stumps.

The wards consist of two small projections on the cover.

The housing is in two parts, the main body and the cover. The exterior is ornamented and bears black "paint." The interior has a total of 13 stumps, used as pivots and points on which to set springs. The outside, on both sides, is marked "PETERBORO."

The bolt tail runs between two stumps, one of which also serves as a stop for the throw. The withdrawal is stopped by a stump at the back plate. The operation of the latch bolt is a plain, crank-action type. The latch bolt can be reversed without changing the follower or crank.

The Peterborough Lock Manufacturing Company Limited was established in 1885 and produced the "PETERBORO" line of hardware. This particular lock is identified as No. 1251, iron bolt with one tumbler, in the 1930 catalogue (Peterborough Lock Manufacturing Company Limited 1930: 96).

Category 22 (Figs. 73-75)

This is a cast, two-bolt lock with a dead-lock bolt and a latch-bolt catch, composed largely of iron, but including two parts of cast yellow metal. It has basically the same housing as category 21 and has an identical lock bolt, tumbler, latch bolt, crank and follower, but has additional parts to provide further security for the latch bolt. In contrast to category 21, the latch catch (Fig. 75f) works on the follower rather than the bolt head. Associated with such a latch catch are two means to bypass the catch and operate the latch bolt. One of these is a second follower (Fig. 75i) having only one horn and working directly on the bolt. The other is a pivoted bar (Fig. 75g), operated with a second key through a second keyhole and protected by a double-acting tumbler (Fig. 75h). Neither of these mechanisms disengages the latch catch from the follower. Since these two mechanisms are presumably intended to provide access without completely bypassing the latch catch, it must be assumed that the second follower was operable only from one side of a door.

Category 23 (Figs. 76-78)

This is an iron, two-bolt lock with dead-lock bolt and latch catch. The manufacture is composite, the case is stamped of sheeting and most of the remaining parts, except the springs, are cast.

The lock-bolt tail has a pseudo lanket hole behind the head and a talon and bolt stump at the end. The underside of the tail end has a longitudinal groove to ride on a horizontal rail on the main plate. The latch bolt has a symmetrical bifurcate tail, beginning as an open-ended lanket hole. Both bolts are marked "5220s."

The tumbler is a gated, single-acting type. The spring is flat, passing around a stump to work both on tumbler and latch bolt. The latch catch has a separate flat spring. The tumbler is marked "2213."

The case is pressed from sheeting and consists of two nearly symmetrical halves, a main plate and a cover plate, each having bent edges to provide half of the rim. Three stumps are riveted through the

main plate. The case is finished inside and out with black "paint." The cover is marked "SARGENT & CO.NEWHAVEN,CT.U.S.A."

The lock bolt is guided by the groove under the tail riding on a rail on the main plate. The end of the groove is also the stop for the withdrawal. The stop for the throw is achieved by one end of the lanket hole and the tumbler pivot pin. The open-ended lanket hole works with a guide pin to keep it running in a straight line. The operation of the latch bolt is a plain, frog-action type. The latch catch functions by sliding behind one foot of the bolt tail.

Lock Accessories

Discusson of a complete lock should include the accessories which are necessary for it to function as a lock and latch; however, since most of the examples considered are archaeological specimens where it is not possible to relate specific accessories to specific locks, the accessories are discussed as a separate section. The types of items considered are keepers, knobs and spindles.

Keepers

The term "keeper" is applied to any device serving as a catch for a door lock. Butter (1968: 134) acknowledges this to be a term rarely used in the lock trade where terms such as "striking plate" are preferred; however, "keeper" is the term preferred here and the one to be used exclusively because it acknowledges the function of the device without implying anything about its form. "Striking plate" on this count is less appropriate because it cannot be applied to all forms of catches or keepers.

The form of the keeper varies with the form of the lock. For a mortise lock it is a plate mounted on the inside of the door frame opposite to the lock and almost completely concealed when the door is closed. For a surface-mounted lock it is attached to the surface of the door frame, exposed to view, and is in the form of a box or staple to provide a bar for the bolt head(s) to slide behind. The keepers considered here are all of the latter two forms.

The box type of keeper consists of a rectangular box fastened vertically to the door frame. It is open on the front or the surface facing the lock and usually also on the side facing the door frame. All other sides consist of metal plates. The outside plate, the one facing a viewer standing in front of a door, often has its front edge reinforced either to provide a stronger plate for the lcok-bolt head or to provide a stronger and bevelled edge for a latch-bolt head to slide past.

It is probable that box keepers were designed to match the locks they were used with. The length of the box would correspond to the width of the lock case and any ornamentation or other finish would be similar on the two pieces. A staple, on the other hand, is more likely to be only big enough to fit the lock-bolt head.

Staple-Type Keepers

These are no more than square staples driven into the door frame. For the most part they cannot be readily distinguished from staples for other purposes and are, therefore, not considered extensively here.

Category 1 (Fig. 80a)

This form of staple is considered as most likely being a door-lock keeper because the shanks are located to one side of the head rather than being centred, allowing it to be attached close to the edge of the door frame without the shanks being too close to the edge, thereby reducing the chance of splitting the wood of the door frame. A similar form, but with less of an offset, is illustrated by Streeter (1970: Fig. 12) and identified as belonging to a stock lock.

Category 2 (Fig. 80b, c)

This could possibly be called a boxed staple since it consists of a staple with a sheet-metal housing forge-welded to it to close it off in the same way as a box keeper. The middle of the head also has a strap attached and rolled into a circle. The latter feature may have functioned as a striking lip for a latch bolt.

Both examples of this form of staple keeper are from a site occupied from the 1730s until 1783. At the moment no lock types are known for the site.

Box-Type Keepers

The box keepers considered are manufactured either by forging or by casting. The forged types are constructed in much the same manner as forged lock cases: some of the plates are bent from one piece of stock and others, usually only one of the plates, are attached with rim rivets. The striking lip may be bent from the outside plate or be a separate bar attached with rivets. Cast keepers are made in one piece, usually including a thickening to function as a striking lip. For the forms considered here, ornamentation appears only on the cast-iron ones.

Category 1 (Fig. 81a)

This is an iron form of one-piece construction, produced from a single sheet by cutting and bending. The striking lip is an extension of the outside plate, bent back to provide an angled surface for the head of a latch bolt.

Category 2 (Fig. 81b)

This is an iron form, of two-piece construction. The outside, top and bottom plates are bent from one piece and the back is attached with rim rivets. The striking lip is as for category 1. The form of the back

plate is known not through its presence, but through the presence of holes for the rim rivets in the outside plate.

Category 3 (Fig. 81c)
This is an iron, three-piece form. Construction of the box is the same as that for category 2. The striking lip is a rectangular bar attached with two rivets.

Category 4 (Fig. 81d)
This is a three-piece form. Except for the striking lip, the material is iron. As for the other categories, the outside, top and bottom are bent from one piece. The back plate is attached with lugs along its upper edge which are riveted through the outside plate rather than having separate rim rivets. The striking lip is a cast-brass strap set at an angle to the outside plate and attached at either end by fastening plates with lugs riveted through the plate. The exterior of the iron portion is finished with black "paint."

Category 5 (Fig. 81e-g)
This is a three-piece form. The box is constructed as for category 2. The two back plates which are present are of channel cross-section. The striking lip is of cast brass attached with riveted lugs. The outside plate and striking lip are of the form required for a Carpenter-type lock where the latch is not withdrawn but raised and dropped, therefore requiring an opening in the box through which the latch-bolt head can pass. The box is recognizable even in the absence of the striking lip because of this opening (Fig. 81f). The lip usually has a thickened part extending around the opening (Fig. 81e, g) and is sometimes marked (Fig. 81e). This particular mark is "CARPENTER PATENTEE."

Since it is not suitable to turn such keepers upside down to use on either side of a door frame, they must be made for one side or the other, as shown by the examples here.

Category 6 (Fig. 82a)
This is a one-piece form of cast brass. The striking lip is a ridge along the edge of the outside plate.

Category 7 (Fig. 82b-h)
This is a one-piece form of cast iron. The examples illustrated are all from contexts dating around the early fourth quarter of the 19th century and demonstrate some of the variation in size and ornamentation. Most also bear some traces of black "paint."

Knobs and Handles

Category 1 (Fig. 83a, b)
This is an oval, copper alloy knob and neck. The centre of the top has a circular hole, the neck has a square interior. As described by Streeter (1974: 51-2), the spindle end passed through the neck and was attached eitner with a nut on the spindle or by riveting the end of the spindle. Knobs using this arrangement are considered to precede those using a set screw in the neck.

The construction appears to be in three parts, cast separately and then brazed together. The top is in two parts joined along its equator.

The identification of these items as knobs for door locks is based on two factors, both related to the fact that the knob is to be turned. The first is that the lower end of the neck flares to produce a large flat surface more suitable for a bearing surface. The other is that the inside of the neck is square to facilitate its holding and turning a spindle.

Category 2 (Fig. 83c)
This is a circular copper alloy knob and neck. The neck has a set screw on one side, screwed onto or into the spindle. The top appears to be in one piece crimped onto the neck. The neck is probably cast.

Knobs of similar form are also associated with sliding bolts, but this particular example can be associated with a door lock because of the presence of a substantial portion of a spindle.

Category 3 (Fig. 83d, e)
This is a drop-ring handle, such as also included with rim lock category 9. Manufacture is by casting. The form has similarities to the bows of ward-lock keys.

Category 4 (Fig. 84a-e)
This is a ceramic type, consisting of a ceramic top and a cast-iron neck. The designation "porcelain" is used for such strictly on the basis of colour for the top with no implication of material (Towne 1904: 168).

According to Towne (1904: 168), ceramic knobs were available in three colors: "porcelain," "jet" (black) and "mineral" ("a tawny brown, irregularly striped"). Examples of the latter two are not available for inclusion here.

The presence of ceramic knobs can also be recognized through the presence of the cast-iron necks (Fig. 84c-e). The iron necks appear to have been leaded into a socket in the ceramic top with various shapes of neck used to create a better joint.

Spindles

Category 1 (Fig. 83f)
This is a form associated with rim locks such as category 7. The ends, where they fit the knobs or follower, are square; the remainder is circular. One end is threaded to take a nut, the other has been riveted. The ends are tapered and the square section terminates at a shoulder to provide a stop when the knob is attached. This spindle type is likely associated with copper alloy knobs such as category 1.

Category 2 (Fig. 45)
This is a form associated with the Carpenter-type lock. Compared to spindle category 1, it is relatively short, but is similar in having square ends and a circular mid-section. Each end has a single threaded hole extending into the bar, but not through it (drilled and threaded). The single hole allows for no adjustment for varying door thicknesses. The knob could have been similar to category 2 of knobs and handles.

Category 3 (Fig. 84f)
This is a form associated with the ceramic knobs considered here and consists of a square bar with a series of three holes at either end. The holes are drilled through and threaded (and are also drilled at right angles to each other so as not to weaken the bar more than necessary). The use of multiple holes allows the distance between knobs to be varied and thus allows for different door thicknesses.

Category 4 (Fig. 84g)
This is a variation on category 3 in having only a single hole at one end, but still three holes at the other. In this case, all holes are in the same direction.

Category 5 (Fig. 84n)
This form is a square bar with no apparent holes for attachment of a knob. The associated knob neck has no hole for a set screw. The hole which is present in the knob neck serves an unknown purpose. The mid-point has two lateral notches, again for an unknown purpose.

The Identification and Interpretation of Parts and Fragments

The archaeologist is more likely to discover parts or fragments of locks than he is to find anything approaching a complete lock. In many instances the function of these can be recognized and they can be related to locks or door locks. As will be discussed here, it is also possible to relate some items to more specific lock forms, or some of the categories described here. The discussion is presented by lock parts rather than lock types.

The lock bolts which have been seen have a number of distinctive snapes associated with specific lock forms. The plain stock lock bolt, although similar to some for rim locks, differs in not having a bolt stump; rather it engages with the tumbler via a series of notches along the upper edge of the tail. In examining corroded or fragmentary examples, one should ensure that the bolt stump has not been lost or removed.

A lock bolt such as for plate stock lock categories 1-3 is also distinctive and since the lock is relatively simple, the presence of a bolt can lead to interpretations in the appearance of the remainder of the lock except, of course, the wooden case, which has hardly been touched on here. A bolt such as Figure 19d, although its end is missing, can still be considered as belonging to some form of plate stock lock. An item such as Figure 19e poses a different problem. Its appearance is much like that of other lock bolts for plate stock locks, but it is missing its bolt stumps. These may have been lost, but there are no scars to support such an opinion. There is also no evidence for any other way of engaging with a tumbler.

A bolt, such as with plate stock lock category 5, is sufficiently different that its presence alone would not suggest a plate stock lock. Its operation is similar enough to rim lock categories 1-3 that an interpretation of lock type based on the lock bolt alone could be difficult; however, the tail is different and if such a bolt appeared by itself, its interpretation, beyond belonging to a lock, might remain a problem. On the other hand, other bolts (Fig. 19f,g) having a similar operation of a notched tail and riding on a rail are similar enough to rim lock categories 1 and 2 to suggest a similar lock form.

The lock bolt of rim lock category 7 is represented here by two nearly identical examples (Figs. 36c, 37) and is similar to those illustrated by Streeter (1974: Figs. 3-5). The association between bolt and lock form is clear but not decisive. There is, for instance, no

indication on presence or absence of a night bolt. There is also the possibility of similarity with rim lock category 9. The major difference for category 9 is not in its mechanism or operation, but in the presence of a yellow metal case over the iron main plate.

The subject of cast-iron rim locks has only been touched very superficially. Reference to any hardware catalogue of the late 19th or early 20th centuries will show how varied such locks could be. The possibility remains of relating bolt forms, or for that matter any of the other parts, to a specific manufacturer or even a specific type or group of types. Such an undertaking can not even be considered with the few forms described here.

The forged tumbler and its associated spring is one of the least likely parts to be of use in recognizing a lock of any specific form. The tumbler form and spring described here as "common" are seen to occur on plate stock locks and numerous forged rim locks. Beyond that, they also appear in other types of locks for other functions. The presence of such parts can do little more than indicate the presence at a site of some kind of lock. Size may occasionally suggest a door lock rather than some other kind, but even here it has to be pointed out that some of the lock categories (e.g. Fig. 23) have relatively small tumblers.

The wards of a forged iron lock can be recognized as such (Fig. 88e), but except for the wards of a plain stock lock (Fig. 2e, f), it cannot be specified further what form of lock they belong to. The presence of a reconstructable cover plate is of some assistance for suggesting a plate stock lock over a rim lock. For instance, the box of wards in Figure 88e has a cover plate with only a small portion of the original edge remaining; however, from this it can be determined that the cover had either a curved bottom or the corners were cut off, a form more common in the plate stock locks considered than in the rim locks. The box of wards, even if only represented by a cheek (Fig. 88f), still indicates the existence of a door lock and general information on the construction of the lock. The nature of the wards in being symmetrical or not, further indicates whether the lock was operable from one or both sides.

The forged case, even in the absence of any of the other attached parts, can be a most informative fragment because it retains evidence of the entire mechanism in the form of the holes where the various parts were once attached. Furthermore, the shape of the plate is a suggestion on whether it is a plate stock lock or a rim lock. If a sufficient portion of the original edge remains, the question of trapezoidal or rectangular plate can be readily answered. The lines will either be at right angles to each other or they will not. If the front and back edges are missing, the question may still be resolved by comparing the top or bottom edge to the orientation of the keyhole, which would have been parallel to front and back. For example, the plates illustrated as Figure 86a-c are all trapezoidal. All information available to date indicates that trapezoidal main plates are a feature of plate stock locks but not rim locks. The trapezoidal or "hatchet-shaped" plate is also mentioned as a feature of plate locks (Hughes 1957: 100), but, as already discussed, it is not clear whether this refers to a stock lock or a lock without a case. In each of these three examples some parts

are attached and the presence of holes indicates the location and therefore the identity of other parts. The guide staple of Figure 86b is similar to plate stock lock category 4 (Fig. 11), thereby implying a similar bolt form (the bolt in this instance is unknown). The guide plate of Figure 86c is similar to plate stock lock categories 1-3, again indicating a similar form and operation for the bolt tail. No wards are indicated by Figure 86a.

Figure 87 can be taken as an example of the amount of information which can be obtained from little more than the main plate. The back is also present, but its only contribution is on the thickness of the case. From the main plate and its scattering of holes, stumps and bolts, it is possible to identify this as a three-bolt rim lock similar to rim lock category 7 (which, however, does not have the night bolt), or one illustrated by Streeter (1974: Figs. 4, 5). A detailed interpretation of the features of this item is presented in the figure legend.

In the case of Figure 37b, the edges of the main plate are irregular, but the location of some of the parts, such as the latch-bolt stop (stump) and pivot for the latch-bolt spring, indicate that the original lock size is well represented by the portion of the plate which remains. The remaining parts also indicate a similarity with rim lock category 7, except for the presence or absence of a night bolt. The bases of the square guide staple are present, as is the slot for attachment of a guide plate. The follower is identical to catetory 7 and the remaining spring fragment indicates a feather spring. With the presence of such a lock fragment there should be no difficulty in interpreting it as similar to rim lock category 7. The question of a night bolt would be the only major one left unanswered.

The interpretation of main plates can also be less successful, such as the two examples shown as Figure 85. Both can be identified as main plates because of size, presence of keyhole and slots for cheeks. The location of tumbler rest pin allows identification of front and back. One example (Fig. 85b) actually retains part of the front plate, now flattened, but without any hint of the hole for the bolt head. Neither plate can be identified definitely as stock lock or rim lock. For one example (Fig. 85a), the back edge is nearly intact and has been cut rather than broken, indicative of the absence of a back plate and therefore like a plate stock lock.

A main plate, if it retains the front edge but not the front plate, can be examined for differences in appearance between the broken section and that section where the opening(s) for the bolt head(s) was (were) cut: the cut edge will be straight and relatively smooth, the broken portion will be comparatively rough or irregular. The size and number of bolts (heads) can possibly be determined by this procedure.

Other parts of the case, when they appear separately, can often be recognized as well. The front plate (Fig. 88h), because of the opening(s) for the bolt head(s), is readily recognized. The number of bolts is also a contribution to identification of general lock type. The back plate, once broken from the main plate, is like any other strap, recognizable as a part of a lock only if found in association with it. The top or bottom plates (Fig. 88a-c), because they are attached with rim rivets, are readily recognized, but have little more

to say about the form of the lock beyond its being a rim lock. A bottom plate with a longitudinal slot acknowledges the presence of a night bolt (Fig. 88d). The possibility of a strap with rim rivets being from a box keeper should not be discounted, especially when the straps are relatively short.

For forged rim locks the fact that each was produced separately can also lead to productive efforts in matching parts of a case which have become separated. Each lock is likely to be slightly different and therefore, in cases where rim rivets on one plate line up with rivet holes on another plate, there is a good chance that these are in fact fragments of the same lock (Fig. 37a).

A cover plate such as Figure 88i is identical to that of rim lock categories 6 and 7 or the rim locks illustrated by Streeter (1974: Figs. 3, 4, 17, 18). A fragmentary plate such as Figure 88j can be identified as being of the same form because the cut-out corner can be differentiated from the broken edge. A cover plate such as Figure 86d can be attributed readily to a plate stock lock. Figure 88h is also likely to belong to a plate stock lock.

Various forms of stops and guides are recognizable. A guide plate such as appears with Figure 86c, is not likely to be mistaken for anything else. Square guide staples (Fig. 88g) also have a distinctive form, but are associated with a variety of rim lock forms.

In most instances the spindle and its follower can be recognized; however, recognition of the knob is not as straightforward. There is always the possibility that they have been used on other forms of building hardware, such as sliding bolts, or even have been used on furniture. Having a sufficient length of spindle associated with a knob is of great value in establishing an association with a door lock. For Figure 83e, the similarity with knob category 3 is obvious. The presence of a ceramic knob is also known through the presence of cast-iron necks (Fig. 84c-e). An insufficient number of ceramic knobs are available for examination to establish the significance of the difference in means of attaching the top to the neck.

The nature of keys for plain stock locks has already been considered in characterizing such locks. Beyond such a general distinction, little else can be said about a lock from the form of key present. A key (Fig. 80) having a collar behind the bit could be used on any plate stock lock or forged rim lock. The bit will indicate the complexity of the wards and whether the wards were symmetrical or not, but will not have anything to contribute on the type of lock involved. Presumably some keys on a site should belong to some of the locks, but this is more likely to be discernible only after the items have been cleaned.

General Comments

The sequence of descriptions should not be considered as implying a sequence of lock forms. In general there is some suggestion of chronology, but the arrangement cannot be used to say that one lock is earlier or later than any other on the basis of its position in the descriptions here. A general sequence for door locks begins with hand-forged locks produced from forged stock followed by forged locks produced from machine-rolled stock and then followed by the use of cast iron; however, for archaeological specimens the change from forged stock to rolled stock is of less significance since the differences are likely to have been lost through corrosion. The use of cast iron was probably introduced some time during the second quarter of the 19th century. The end of the sequence of manufacturing techniques, for locks being produced today, is the use of casting and a variety of machine processes such as stamping; however, technologies survive and overlap to such an extent that a cast-iron lock does not automatically postdate a forged one. The cast-iron one would, however, have an earliest possible date as suggested above.

There is some temptation to suggest that cast-iron locks such as rim lock category 12 are transitional both in technology and date between forged locks and other cast-iron locks. On the one hand they are cast, or mostly so, but on the other hand they have a form more like that of the forged locks. The case is horizontal rather than upright and the top and bottom plates of the rim are cast with pseudo rim rivets, slightly shorter than the width of the rim, to provide points on which to set the cover. The cover fits into the rim, a characteristic shared with the Carpenter-type locks, but in contrast to other cast-iron locks where the cover rests on the edge of the rim.

A full-sized cover plate, one which completely closes the case, is a feature which possibly first appeared sometime during the early 19th century. In the forged examples here it appears only on the Carpenter-type locks which are presumed to date no earlier than 1830. In this case it also fits into the rim. A forged mortise lock, considered to date from 1819 and to be of American manufacture, as illustrated by Cliver (1974: 34), also has a complete cover, set on the edge of the rim and apparently attached with the rim rivets. The use of the rim rivets to hold the cover means that the lock mechanism is not readily accessible if repairs are required.

The use of a full-sized cover in the absence of the feature of reversibility for the lock does not provide any obvious advantages. There is not likely to be any advantage in having the case completely closed or having the mechanism completely covered; many rim and plate stock locks function adequately without such a cover. A full-sized cover also does not function any better than a smaller cover in holding parts of the mechanism together. The one difference which comes to mind is that a full-sized cover is no more than a rectangular plate with a keyhole and a number of holes for the attachment of bolts, a simpler arrangement than the cover of a forged rim lock, such as categories 6 and 7, in which the plate has to be cut to fit around the guide staple and rim rivets, and the slits to align the cover on the cheeks have to be cut accurately. Possibly the full-sized cover was introduced as part of the mechanization of lock manufacture.

A cover such as used with many of the forms of cast-iron rim locks is associated with the feature of reversibility; the lock can be attached with either surface facing the surface of the door and the latch bolt can be reversed so that the bevel on its head can face either direction. In this way the lock can be attached on any hand of door without having to turn the lock upside down. From the locks considered here, it is not possible to suggest that the form of cover and the feature of reversibility are contemporary developments in lock technology, but this is possibly the case.

For surface-mounted cast-iron locks of the 19th and 20th centuries the examples considered here are only a small portion of the total variety available at the time. The catalogues of the period reveal forms and mechanisms by the dozens and even hundreds as numerous manufacturers competed for the same market by producing items which varied slightly in form or mechanism, but provided little more than the minimum of security.

From 1774 onwards the British patent records contain numerous entries for improvement of locks, including door locks. These are also discussed extensively by authors such as Price (1856) or Hobbs (1970). A similar situation probably existed in the U.S. However, such patents are not present on the locks which have been considered here. Even the relatively simple idea of using a double-acting tumbler, either singly or with more than one, does not appear in any of the forged locks. Double-acting tumblers appear in the cast-iron locks, but only singly. A patent like that for the Carpenter-type lock appears not in its original version, but lacking all of its security features and having only the latch bar, a feature which is part of the original patent description, but which is probably not patentable. Latch bars similar to that used in the Carpenter lock already appear on locks of the 18th century.

The question of why lock patents or improvements in lock mechanisms are so poorly represented here, especially in the stock locks and forged rim locks, can be answered in part by a consideration of types of sites which have provided the locks. Contexts have generally not been mentioned for specific objects; however, in general the stock locks and forged rim locks are from military sites, mostly British, but in one case also French. The question of selection of hardware on a British

military site has been considered for one site (Priess 1972), resulting in the conclusion that, at least for the nails, there was an obvious degree of conservatism with wrought nails definitely preferred over cut nails. A similar situation may have existed for door locks since the regulations for engineers specified that "Mortise Locks are not allowed, except in special and particular instances" and "Chubb's Patent Lock is to be adopted, where additional security may be required" (Great Britain. War Office 1832: 118).

The locks which have been described are largely those which would not provide a great deal of security. The stock locks and forged rim locks have wards and single-acting tumblers as their means of security, both being systems which do not have a great deal to offer. Wards can be bypassed in most cases with a skeleton key or an appropriately bent piece of stiff wire, and the tumbler, once it has been lifted out of the way, offers no further resistance to the movement of the lock bolt. Such locks are accessible to anyone with sufficient determination, a minimum of equipment and a not lengthy period of time. They provide security only in the presence of those who respect the message of a locked door regardless of how inadequate the lock may be or those, such as children, who do not yet have the ability to pick the lock.

The cast-iron locks are really no better. Although many of them may have a double-acting tumbler, they have only one and, furthermore, often do not have any wards. The double-acting tumbler can block movement of the bolt by being overlifted; however, the correct amount of lift is determined by the size of the key bit and this in turn is reflected by the size of the keyhole. Operation of the lock then becomes an easy matter; any key which fits the keyhole is likely to operate the tumbler correctly since there are no wards to interfere with turning the key. The absence of a bridge ward also means that the key can be more easily manipulated inside the lock if there should be any difficulty in lifting the tumbler.

In general these locks would serve to keep a door shut, if they had a latch bolt, and would serve to keep out those who are not really very interested in gaining entry. The greatest security is in the presence of the night bolt, which is not accessible from the outside of the door.

Terminology for the Description of Door Locks

The recording of artifact descriptions requires an adequate terminology, acknowledging the existence of all possible or necessary detail. In this way descriptions can be understood and information exchanged with others. For door locks an extensive terminology already exists, scattered through a number of references and over a time period of more than a century. During the time that terms have been developing, alternative terms have arisen and in some cases contradictions have developed. The sources available do not always acknowledge early sources for the terms they present, and gloss over the existence of contradictions or sources of confusion.

The glossary presented here has as its prime objective the presentation of as complete a set of terminology as can be assembled with particular emphasis on the kinds of locks considered here. Terminology for modern locks generally has been excluded. It is not a presentation of original opinions since most terms have already been adequately defined by others. It is an attempt to use some of the earlier sources available and to recognize the existence of contradictory opinions or sources of confusion. A heavy reliance has been placed on the recent and extensive work of Butter (1968). The advantage of the present attempt is that it is concerned only with door locks, resulting in a compilation which is easier to read through and remember than if the door-lock terms were scattered throughout a glossary for building hardware as is the case for Butter. Butter also does not acknowledge the sources for any of his statements although it can not be assumed that they all originate with him.

The objective of this glossary is not to put forth an exclusive set of terms. There is no great insistence that a specific term be used when alternatives exist. In some instances an alternative may be presented as less desirable, but seldom is it stated outrightly that a term should not be used. The few unsatisfactory terms which exist have also been included to acknowledge their existence in the hope that they will not be used. The outcome of the effort will, it is hoped, be a standardization of the use of terminology so that those who read a door-lock description will understand the object in the same way and to the same extent as those who prepared the description.

ACTION. The method of operation of a latch bolt in a lock, consisting of the bolt and its accessories. It involves the movement of the bolt when pushed in, the movement of the bolt when withdrawn, and the automatic springing out of the bolt when released (Butter 1968: 1). There are various methods of operating a latch bolt and transmitting the movement of the knob or handle to the bolt; these can be grouped into a number of categories as defined by Butter (1968). Specific types of action which occur in the collection and which are defined elsewhere are crank, frog and plain.

BACK PLATE. Defined by Price (1856: 257) as the plate "into which the 'drill-pin' and other portions of the works of the lock are rivetted"; however, such a plate is preferably called the main plate. The term "back plate" should be used for a portion of the rim of a metal housed lock, comprising the plate opposite to the front plate or forend.

BACK SPRING. Defined by Tomlinson (1854, 2: 196) as a spring "formed by cutting a strap of metal from the bolt itself, and bending it so that its upward pressure causes the bolt to press upon the edge of the rim." The end of the bolt tail is split longitudinally and the opposite edge of the tail has two notches. The presence of a back spring precludes the need for a tumbler.

BACK-SPRING LOCK. A lock with a lock bolt using a back spring. "The bolt which is raised at the rear by the turning of the key has notches to engage the rim of a lock" (Butter 1968: 7, Fig. 10). In cases such as furniture locks, the end of the tail projects through the rim of the housing. The back-spring arrangement is common on early or simple padlocks, but does not appear on any of the door locks considered here.

BANBURY LOCK. A term used by Price (1856: 837), Butter (1968: 8) and others as an alternative for plain stock lock. Its use does not appear necessary.

BAR. On a gated-lever type of tumbler, the horizontal portion of the gating or "that part between the pockets which is slotted to allow the bolt stump to pass through" (Butter 1968: 8, Fig. 306)

BARREL KEY. A key having a hollow pin or "a tubular end, the hole in which fits over a guide-pin in the lock" (Towne 1904: 106). The definition by Zara (1969: 9) that it has a hollow shank is incorrect since the form of the shank is irrelevant in the use of the key. "Pipe key" is an alternative designation. Butter (1968: 8) defines a barrel key as the American equivalent for a pipe key.

BELLY. The curved, and usually lower, edge of a lever type of tumbler on which the key acts to raise the tumbler (Eras 1957: 14; Butter 1968: 9). It can be either convex or concave, with the former predominating.

BEVELLED BOLT. A bolt having a bevelled head so that it is automatically withdrawn as it passes the catch. Latch bolts are always bevelled in some way and lock bolts are occasionally bevelled. The term can be used to describe a bolt, but not to name it; terms such as latch bolt or lock bolt are preferable for the latter purpose.

BIT. That part of a key which engages with and moves the tumblers and lock bolt of a lock (Towne 1904: 13). It is that part of the key which enters the lock although for a ward lock it does not include the pin (Butter 1968: 135). For a ward-lock key, it contains the various notches corresponding to the wards of the lock. Towne (1904: 13) mentions "wing" as an alternative; however, bit should be considered preferable.

BIT KEY. Defined by Butter (1968: 12) as an American term for "a key with a bit projecting from the shank." This would be a key for a ward lock and a preferable term is "ward-lock key."

BIT-KEY LOCK. "One operated by a key having a wing bit" (Towne 1904: 13). This definition is confusing since Towne has also used "wing" as an alternative term for bit. The type of lock intended here is a ward lock, a lock having a system of wards, and this latter term is perferable.

BITTING. "A cut, or indentation, on that part of a key which acts upon and sets the tumblers" (Towne 1904: 13). This definition is not entirely clear, but appears to refer to the cuts on the lower edge of a ward-lock key bit which are required to lift the tumblers of a multiple-tumbler arrangement to the various levels required to release the bolt. Also known as "steps."

BOLT. A sliding piece in a lock which can move out of the lock case and engage with or fit into an opening or catch such as provided by a socket, staple, box or perforated plate on the door frame (Eras 1957: 12; Butter 1968: 13; Zara 1969: 9). The operation of a bolt goes beyond the limitation imposed by Knight (1876-77, 1: 323) of being movable only with a key. Door locks have three possible types of bolts: lock bolts, latch bolts, and night bolts. Any bolt consists of two basic parts: the head, the part to project out of project out of the housing, and the tail, which transmits actions of the mechanism to the head.

BOLT FOOT. The end of a latch bolt on which the follower, crank or runner operates (Butter 1968: 13)

BOLT LOCK. A lock with a bolt "which can only be driven or withdrawn by the action of a key" (Knight 1876-77, 2: 1340). The term is unnecessary since the term "lock" already adequately covers the definition. If there is any need to specify that the lock bolt

cannot be moved by any other means than with a key, then the terms "dead bolt" or "dead-bolt lock" are preferable.

BOLT NAB. Identified, by means of an illustration (Moxon 1703: 23, Pl. 2, Fig. 2) as a lug or projection on the edge of a bolt tail "to receive the Bottom of the Bit of the Key, when in turning it about, it shoots the Bolt backwards or forwards" (Moxon 1703: 30). Although such a lug may be used on a bolt, it would be suitable only for a spring bolt since a single lug is insufficient to both throw and withdraw a bolt. The feature does not appear on any of the locks considered.

BOLT STEP. "That portion of the key bit which moves the bolt" (Butter 1931: 14). In a standard ward-lock key, one half of the bit, as divided by the bridge ward, moves the bolt while the other half moves the tumbler. When the key is used from the opposite side of the lock, the functions of the two halves of the bit are reversed.

BOLT STOP. "A part in a lock for the purpose of limiting the travel of a bolt, whether inwards or outwards, or both" (Butter 1968: 14)

BOLT STUMP. On a lock bolt, it "is that stud which projects at right angles from the face of the bolt, and which passes in and out of the 'slots' through the gating in the levers, or combinations, or other moveable obstructions in the lock" (Price 1856: 259). The term would be even more useful if it were extended to include the stud or projection on any lock bolt which acts with a tumbler or tumblers regardless of whether these are single-acting or double-acting tumblers.

BOLT TOE. Given as an alternative to "bolt nab" by Moxon (1703: 23)

BOTTOM WARD. A term listed without definition by Price (1856: 225)

BOW WARD. Used by Moxon (1703: 23, Pl. 2, Fig. 4) for an ornamental feature in the bow of a key, at the end of the shank. Its designation as a ward is inappropriate.

BOX OF WARDS (Fig. 88e). "A box containing a system of wards...which in days gone by was made up complete as a unit ready for fixing in some locks and safes" (Butter 1968: 16). The term is also used by Price (1856: 235), but without definition.

BOX LOCK. Although considered by Knight (1876-77, 1: 351) as "a rim-lock fastened to the side of a door without mortising," it is defined by both Towne (1904: 13) and Butter (1968: 15) as being a lock for a chest or "box with a hinged lid" (Butter 1968: 15). The term finds some use as an alternative for rim lock which, in view of the definitions by Towne and Butter, is inappropriate.

BOX STAPLE. "A staple for rim locks and latches, which is walled on all sides but the one where the bolt enters" (Butter 1968: 15). This

is one form of a strike or keeper and appears to be equivalent to "box strike."

BOX STRIKE (Figs. 81, 82). "One in which the aperature to receive the bolt is enclosed or boxed to prevent access from the rear" (Towne 1904: 13). This is one form of strike or keeper.

BRIDGE WARD (Fig. 2e, f). "A central plate corresponding to the central cut in a key bit; also for attachment of other wards" (Butter 1931: 16). "The kind fitted in some two side locks, the wards being fixed to a plate or bridge which is in the centre of the thickness of the lock and carried on the cheeks" (Butter 1968: 17). It is a plate in the same plane as and located midway between the main plate and the cover plate, and is attached at its ends to the cheeks. It serves as a ward, but also as a location for the attachment of other wards and as a means of aligning the key while it is being turned in the lock. A lock may have more than one bridge ward, in which case they are usually located so as to be symmetrical from either side of the lock (a key cut to fit from one side of the lock will thus also work from the other side).

BULLET. A type of ward consisting of "a projection or some other formation in a keyhole to suit a corresponding groove cut into the bit of the key...." (Stuart 1959: 275).

BUSH. Generally "a lining around a circular hole in which an axle or other part rotates....to form deeper bearings, which as a rule give smoother working and longer life...further benefit...is often gained by having bushes of a different material from the metal of the lock case" (Butter 1968: 20). On the other hand, Eras (1957: 100) uses the term in reference to a pipe installed in the eye of a keyhole to present a further obstacle to the insertion of an incorrect key; the cross-section of the inside of the pipe varies and a correct key must have a corresponding cross-section to its pin. Such a bush would turn with the key. "Cannon" is an alternative for the latter definition.

CAM. "A rotating piece whereby the rotary motion of a key or knob imparts reciprocating motion to the bolt of a lock" (Towne 1904: 14). Butter (1968: 22) identifies this as an American term and associates it with cylinder locks.

CANNON. A tube "round on the outside and held in place at the back of the lock but capable of turning" (Frank 1950: 53)

CAP (Figs. 86d, 88i-k). "The part which is screwed or otherwise fixed to the case of a lock to cover the mechanism" (Butter 1968: 23). A number of sources (Towne 1904: 14; Hopkins 1928: 15) offer "cover" as an alternative. Price (1856: 257) mentions that "it is usually fastened to the back plate by two screws" which would have been the

case for the common rim locks of the period when the statement was written.

CASE. "The box containing the bolts and other mechanism" (Towne 1904: 14) or "the exterior part of a lock in which the mechanisms and action are built" (Eras 1957: 12). Butter (1931: 10; 1968: 25) adds that it is called a plate if it consists only of a flat plate with one end turned up. For stock locks the case consists of the mortised wooden block. The term "housing" can be considered as an equivalent although it is not used by any of the sources on locks.

CAST-IRON KNOB. One type of door knob for a lock, considered by Towne (1904: 169) to be "largely used with cheap locks...usually ornamented."

CATCH PLATE. "A device on a rim night latch which holds the bolt in or out" (Stuart 1959: 275). This is not a particularly clear definition; it likely refers to a part of the lock mechanism rather than a strike or keeper.

CERAMIC (Fig. 84a, b). One type of material for knobs; "such knobs are used only with the cheapest grades of locks and are seldom called for by Architects" (Towne 1904: 168). Although possibly seldom called for by architects, ceramic knobs are common for some historic door-lock types and other items of building hardware.

CHAMBER. "Sometimes used instead of pocket when referring to levers" (Butter 1968: 28)

CHECK SPRING. A spring "made in various forms to retain parts in the desired positions after movement" (Butter 1968: 30). This is a useful term for describing the function of a spring without saying anything about its form.

CHEEKS. "An upstanding plate or other piece fixed in the case of a lock to support or guide some member" (Butter 1968: 30). Alternative terms are "pillar" (Butter 1931: 16) or "upright" (Streeter 1974: 49). The term is possibly best reserved for the plates used for attachment of the bridge ward(s) and the cap or cover plate.

CIRCLE WARD (Fig. 20f). Consisting of a partial or complete ring of sheet metal attached to the main or cover plate or the bridge ward; also known as a wheel or wheel ward. It is a partial ring wherever there is a need for the key to pass on entering the lock. It differs from a pin ward in being a continuous strip of metal rather than a single pin or projection although the wards on the bit of the key are the same for a circle or a pin ward. A circle ward, because of the greater amount of metal used, would be less likely to bend than a pin ward.

COLLAR. On a ward-lock key it is "the flange or projecting ring on the shank...to prevent their being pushed right through the lock" (Butter 1968: 36). For keys of plain stock locks the collar is located approximately at the midline of the bit whereas for plate stock locks and rim locks it is located behind the bit (Streeter 1970: Figs. 9-11).

COLLAR WARD. "The ward which surrounds the circular part of the keyhole and provides a bearing for the pin of a key" (Butter 1968: 37). In form it is the same as a circle ward, but has a special designation because of its specific location.

COMMON TUMBLER. A term used by Price (1856: 243) in referring to a single-acting tumbler. Although this may refer to a specific type of operation, it is not a suitable term for identifying a type of tumbler because it says nothing about form. The tumblers for both plain and plate stock locks are single acting, and therefore "common," but differ substantially in form.

COMMON-TUMBLER BOLT. "Has the 'racks' or 'notches' in its top edge" (Price 1856: 258). This also is not a suitable term since not all bolts which work with single-acting tumblers have the notches in their top edges; only in the case of plain stock locks is this the usual form of bolt.

COPPER WARD. "The employment of that metal, instead of iron, to adapt them for use in cellars, and other damp places" (Hebert 1836, 2: 109). The term is suitable only when used in association with others which describe the form of a ward.

CORRUGATED KEY. "A sheet metal key of uniform thickness and corrugated longitudinally. One having a sinuous cross-section, and not merely grooved on one or both sides" (Towne 1904: 15). This is a key for a cylinder or pin-tumbler type of lock and was developed about 1882 as an improvement over the original flat key for Yale's pin-tumbler lock (Towne 1904: 41).

COVERED ESCUTCHEON (Fig. 27). "A keyhole escutcheon with a cover" (Butter 1968: 40)

COVER PLATE. An alternate term for "cap." The definition by Stuart (1959: 275) that it is "a plate screwed over the lock case covering the mechanism and holding the working parts in place" is not entirely correct since the cover need not go over the entire case, but, as in the case of many of the locks considered here, can cover only the system of wards. Its contribution to holding the mechanism in place is also often minimal. The cover plate is also a location for the attachment of wards.

CRANK (Fig. 75d). "A pivoted member which is used for various purposes, one being to transmit movement to the bolt of some locks and latches when the follower is turned" (Butter 1968: 40)

CRANK ACTION (Figs. 74-75). One in which the motion of the follower is transmitted to the latch bolt by means of a pivoted arm or crank. The design of a crank is such that it will always turn in the same direction regardless of which direction the follower may be turned (Butter 1968: 40).

CROSS WARD. A term used by Moxon (1703: 23, Pl. 2, Fig. 4) to identify certain wards on a key. The rationale for such a designation is not clear.

CUT LOCK. "Inserted into the woodwork so as to lie flush therewith" (Knight 1876-77, 2: 1340). A similar definition is used by Butter (1968: 42) for a "cut cupboard lock." An alternate term is "flush lock."

CYLINDER LOCK. "One in which the keyhole and the tumbler mechanism are contained in a cylinder or escutcheon separate from the lock case" (Towne 1904: 16). The tumblers are pin tumblers. The term characterizes only one aspect of a lock: the nature of its tumbler mechanism. It is not adequate when used separately to characterize a lock.

CYLINDER-LOCK KEY. A key for a cylinder lock, consisting of a bow and a bit

DEAD BOLT (Fig. 20e). A lock bolt with a squared head and which, therefore, has to be both thrown and withdrawn with a key (Towne 1904: 17; Eras 1957: 13; Butter 1931: 10; 1968: 44). The term can be used as an alternative for one form of lock bolt.

DEAD LATCH. Towne (1904: 17) considers this the same as "night latch," but Butter (1968: 45) acknowledges the existence of some confusion on the meaning of the term, one possibility being that it refers to a night latch which can be deadlocked. It appears preferable to avoid use of the term.

DEAD LOCK. "One having a dead bolt only" (Towne 1904: 17; Butter 1968: 45). The situation appears to be quite straightforward, but other authors have introduced some confusion. For instance, Knight (1876-77, 1: 679) indicates that it is "a lock operated on one side by a handle and on the other side by a key," overlooking the fact that this would require a latching lock bolt and would obviate the need for the term "dead" in the designation. Tildesley (1967: 87) states that such locks "do not catch or spring like rim locks;" the reference to rim locks is incorrect in this context. Tildesley (1967: 87) is, in fact, quite confused and feels he is "unable to explain the inanimate appelation applied to these locks, a name

which would more appropriately describe mortice locks which are buried in the door." His understanding of locks is obviously limited.

DEADLOCKING. "Generally and preferably means an operation performed by an extra turn of the key to prevent both the pushing in of a spring bolt - of a night latch particularly - and its withdrawal by the handle" (Butter 1968: 45)

DOG. A projection or similar device which obstructs or holds in place another part in a lock (Knight 1876-77, 1: 716; Butter 1968: 52); the lug on a single-acting tumbler is an example of such an item.

DORMANT LOCK. "One having a bolt that will not close of itself" (Knight 1876-77, 2: 1340). Although this definition is repeated by at least two other sources (Appletons' Cyclopaedia 1882, 2: 298; Hopkins 1928: 17), it is not at all clear what is meant by it.

DOUBLE-ACTING TUMBLER. A tumbler having a longitudinal slot with "'notches' or 'racks' at the top and bottom of each opening" (Price 1856: 258) so that it "must be lifted a precise amount, neither too little nor too much, to enable the bolt of a lock to be shot or withdrawn" (Butter 1968: 55). This type of tumbler was introduced by Barron in 1778 (Butter 1968: 9; Hobbs 1970: 49). The notches are known as pockets.

DOUBLE-BITTED KEY. A key having a bit on either side of the shank (Towne 1904: 18; Eras 1957: 13; Butter 1968: 56)

DOUBLE LOCK. Used by Hobbs (1970: 48) as equivalent to double throw; its use is unnecessary since it is not particularly clear in itself

DOUBLE-THROW LOCK (Fig. 36). "One with a bolt which, after the first throw, can be shot out further by an extra turn of the key, and requires two turns to withdraw it fully" (Eras 1957: 13). Zara (1969: 9) applies the term incorrectly to any lock whose bolt is thrown by more than a single turn of the key; such locks can be designated generally as multiple-throw locks or, for specific examples, the exact number of throws required can be noted.

DRAWBACK LOCK. At least three separate definitions exist for this term. The earliest noted is that "the bolt, when not locked, is made to spring to, and has a knob for the purpose of drawing it back" (Hebert 1836, 2: 109). A similar opinion is presented by Knight (1876-77, 2: 1340), who provides further clarification by stating that it "has a bolt capable of three positions, locked, latched, or open." Tildesley (1967: 87-8), on the other hand, considers it as resembling a dead lock "except that the bolt springs and is worked by a brass knob on the inside or by the key on the outside." This is a reasonable definition for a night latch. Finally, Butter

(1968: 58) associates the term with a lock having a sliding handle to withdraw the latch or spring bolt. In the first two instances reference is to the lock bolt whereas in the third it is to the latch bolt. The definition by Tildesley can be set aside as more suitable for a night latch. In general the term is possibly best not used.

DRILL PIN. A pin attached to the main plate of a lock and located at the centre of the keyhole eye; the hollow pin of a pipe key fits over it and rotates on it (Towne 1904: 18; Eras 1957: 15)

DRIVER. "The upper portion of a pin tumbler" (Towne 1904: 71; Butter 1931: 55)

DROP ESCUTCHEON. "An escutcheon or key-plate provided with a pivoted drop covering the key-hole" (Towne 1904: 18). One form of covered escutcheon.

DROP HANDLE (Fig. 83d). A pivoted handle attached to the ends of a spindle and used for the same purpose as a knob or lever handle. When not in use it drops to a vertical plane adjacent to the lock. It may also be provided with stops to prevent it from being lifted beyond a horizontal plane.

END PLATE (Fig. 88h). The plate at either end of the case; consisting of the front plate, through which the bolt heads pass, and the back plate.

ESCUTCHEON. Generally a protective plate surrounding an opening such as a keyhole. The term should be used with a qualifier to identify its specific function. Sources such as Towne (1904: 19) equate this term with keyhole escutcheon which is incorrect.

EYE. In a keyhole for a ward-lock key, the part corresponding to the pin of the key; generally circular because the key must rotate within it

FEATHER SPRING. "Made of a flat strip bent approximately to V shape with a loop or eye at the apex of the V to fit a stump [in] the lock case" (Butter 1968: 68)

FENCE. "A projecting portion of a lock, usually attached to the bolt, which engages with the tumblers, and enters or passes through the 'gating' of the tumblers when the bolt is retracted [or thrown]" (Towne 1904: 20). From this definition and a similar one by Knight (1876-77, 2: 835) it is not clear whether this refers only to a projection on the lock bolt or whether it can be applied to any obstruction to the movement of the bolt, such as a lug on a single-acting tumbler. In the latter case, "fence" would be approximately equivalent to "dog." It would be best to restrict the use of this term to the lug on the lock bolt. An alternative

term appears to be "bolt stump" although Towne (1904: 32) specifically states that stump and fence are not synonymous.

FINE. "In the lock trade, has about the same meaning as the ordinary application of that adjective to smart persons; they are a little glazed on the surface, to dazzle the eye, but are coarse enough underneath; and they have two bright-headed screws, one or both of which are usually loose" (Hebert 1836, 2: 109)

FINE WARD. "Built up of sheet metal with brazed joints" (Butter 1931: 16). Ramsell (1937: 20) feels that these are "expensive to make because concentric rings of complicated shape are brazed on to a bridge piece." The shape of such wards is not made clear. Butter (1968: Fig. 152) illustrates them as plates parallel to the bridge ward. Presumably the term also applies to such as circle wards if they are of sheet metal.

FLAT KEY. Sources are in agreement that this identifies a key made of sheet metal; however, some would have it "without groove or corrugation" (Eras 1957: 13; Butter 1968: 84) and others allow that it is "sometimes provided with longitudinal grooves or indentations on one or both sides" (Towne 1904: 20). The former opinion appears to be closer to what is implied by use of the word "flat."

FLANGED RIM LOCK. "A rim lock with flanges top and bottom for the fixing screws" (Butter 1968: 84)

FLUSH LOCK. A door lock which is "recessed into the face of the wood of the door style, to lie flush with it" (Eras 1957: 125)

FLUTED RIM. "A rim of channel section steel used instead of a flat section for making the cases of certain rim locks" (Butter 1968: 86)

FOLDING KEY. "A key of which the two halves are hinged together and can be folded to facilitate carrying about" (Eras 1957: 13)

FOLLOWER (Fig. 60d). "The part of the lock which is turned by handle or spindle to withdraw the latch bolt" (Eras 1957: 13). "Hub" is identified by Butter (1968: 129) as an American equivalent.

FOLLOWER HORNS. "The extensions from the body of the follower to act on the feet of the bolt or runner" (Butter 1968: 87)

FOREND. "That part of the case of a rim lock or latch through which the bolts protrude" (Butter 1968: 88). The term can probably also be applied to the plate serving the same purpose on a mortise lock or plate stock lock. An equivalent is front or front plate.

FROG ACTION (Figs. 59, 60). "One with a frog bolt operated by a central symmetrical follower which turns in either direction" (Butter 1968: 89)

FROG BOLT (Fig. 60c). "A symmetrical spring bolt for a lock or latch with a bifurcate tail or lath and two feet spaced apart to occupy positions above and below the body of the follower" (Butter 1968: 90)

FRONT (Fig. 88h). "The face plate of mortise lock through which the ends of the bolts are projected" (Towne 1904: 21). There is no reason for limiting this term to mortise locks.

FRONT PLATE (Fig. 88h). Used by Eras (1957: 96) in reference to the plate through which the bolt heads project and operate. It can be considered equally suitable as "front" or "forend."

GATED. Having a gate or gating

GATING. "In the bolt is the slot or narrow passage through which the stud or stump of the tumbler moves....in the levers is the slot or narrow passage through which the stump of the bolt moves" (Price 1856: 259). Butter (1968: 92) mentions further that the term is also applied "through confusion and misapplication" to the bolt talon.

GUARD. "A fixed part inside a lock to prevent false keys from turning or to prevent an instrument from reaching the bolt or lever" (Eras 1957: 13). This presumably includes wards, but it is not clear whether other features are included as well.

GUIDE PLATE. A plate riveted through the main plate and serving to guide the bolt tail of a lock bolt. Such a term is not used by any of the sources on locks.

GUIDE STAPLE. A staple straddling the tail of a lock or latch bolt and serving to guide the movement of the bolts. Such a term is not used by any of the sources on locks.

GUIDES. "The fittings to control the direction in movement of certain moving parts" (Butter 1968: 94)

HEAD. "The portion of a bolt which in most locks and latches protrudes through the forend to engage with some other part to effect the fastening" (Butter 1968: 13). For most bolts the head is larger than the remainder of the bolt.

HORIZONTAL LOCK. "One whose major dimension is horizontal" (Towne 1904: 22). According to Butter (1968: 128), this applies to "mortice and rim locks which have a follower further from the forend than the keyhole." The former characterization is preferable.

HOUSING. An alternative term for case

HUB. "A rotating piece within a lock, containing a central aperture to receive the knob spindle and engaging with the bolt or tail piece in the lock whereby the motion of the knob is communicated to the bolt" (Towne 1904: 22). This is seen as an American term for follower by Sutter (1968: 129).

INCISIONS. "The steps in the beard [bit] of a key which serve to raise the levers in opening position" (Eras 1957: 13). These are the same as the "steps."

JANUS-FACE LOCK. "A rim lock both sides of which are similarly molded or ornamented, so that either side may be applied to the door, thus making the lock both right and left handed" (Towne 1904: 22). The term is applicable to the cast-iron rim locks considered here.

JET. As applied to ceramic knobs, it identifies "a deep black" (Towne 1904: 168). There is no implication of material or quality intended with the use of this term.

KEEPER (Figs. 80-82). "Sometimes used, though rarely in the lock trade, for staple, striking or locking plate" (Sutter 1968: 134). The term applies generally to any catch for a door lock and can be qualified with such terms as "box" or "plate."

KEY (Fig. 79). "An instrument for operating a lock, an instrument that can be removed for carrying but must be inserted and used in the proper manner in the lock for locking and unlocking" (Sutter 1968: 134). A key is one of the essential elements of a lock; it is required for at least part of the operation of a lock bolt.

KEY GUIDE. "A projection like a split tube on the case or cap of some locks to guide the key into the lock" (Sutter 1968: 150); not to be confused with "cannon," which is also a split tube but one which turns with the key.

KEYHOLE. "The opening in a lock, or the door to which it is fitted, for the insertion of the key" (Towne 1904: 22). For ward-lock keys the keyhole consists of an eye, corresponding to the pin of the key, and a slot, corresponding to the bit of the key.

KEYHOLE COVER (Fig. 27). Any movable plate used to cover a, keyhole. When it moves in a plane parallel to the plate to which it is attached, it is said to be pivoted and when it moves in a perpendicular plane it is hinged. A pivoted cover is attached with a single pin whereas a hinged cover is attached with a hinge-like joint.

KEYHOLE ESCUTCHEON. A plate surrounding a keyhole, either on a lock or a door. It serves as protection or reinforcing and is often ornamented and made of a different material from that of the lock.

KEY PLATE. "The plate, either plain or ornamental, having one or more key-holes (but no knob socket), and adapted for attachment to the surface of a door" (Towne 1904: 22). Although the term may be suitable for identifying a particular form of object, it is still a keyhole escutcheon.

KEY WAY. "The aperture in locks of the Yale type, which receives the key and engages closely with it throughout its length, as distinguished from the open key-hole of a common lock" (Towne 1904: 23). A key way is best described in terms of its cross-section. The Yale type of lock mentioned is the same as a cylinder lock.

KNOB (Fig. 83a-c). "A projecting handle, usually round or spherical, for operating a lock" (Towne 1904: 23). It must be added that on a door lock it is used for operating the latch bolt.

KNOB BOLT. "A door lock, the bolt of which is controlled by a knob or thumb piece from either or both sides of the door, (not one actuated by a key)" (Towne 1904: 23). This is presumably one way of characterizing the latch bolt of a lock.

KNOB HANDLE LOCK. "The latch bolt of this type of lock is moved inwards or outwards by a spindle, which can be turned either to right or left" (Eras 1957: 15). This does not differ substantially from the definition of a knob lock. Such a lock would have a knob bolt.

KNOB LATCH. "A doorlock having a spring bolt operated from either or both sides of the door by a knob (not one actuated by a key)" (Towne 1904: 23). The same definition is used for knob bolt. In the one case the definition refers to a type of bolt which may be found in a lock or latch whereas in the other it refers to a type of latch; that is, a device which does not have a lock bolt.

KNOB LOCK. "A door lock having a spring bolt, operated by a knob, and a dead-bolt operated by a key; (a knob lock thus combines in one structure a knob-latch and a lock)" (Towne 1904: 23). This would be one form of two-bolt lock, identified on the basis of how its latch bolt is operated.

KNOB NECK. "That part which fits in or close up to the rose" (Butter 1968: 196). The term "knob shank" can also be used.

KNOB SHANK. "The projecting stem of a knob, containing the hole or socket to receive the spindle" (Towne 1904: 23). The term "knob neck" can also be used.

KNOB TOP (Fig. 84b). "The upper and larger part of a knob, that which is grasped by the hand" (Towne 1904: 23). This together with the shank or neck makes up a complete knob.

LANKET HOLE. "The oblong hole in the lath of a bolt to fit over a stump in the lock case in order to guide the bolt in its travel and generally to determine the amount of travel in both directions" (Butter 1968: 154). This should not be confused with the gating of a bolt or tumbler. A lanket hole can be used on either a lock or latch bolt, but is most common on a lock bolt.

LATCH. "A fastening which has a bolt - usually a spring bolt - that is withdrawn or lifted by a handle but no key" (Butter 1968: 155). Other sources are inclined to define this in terms of it being a lock with a particular type of bolt - a spring bolt (Towne 1904: 23; Eras 1957: 15; Stuart 1959: 276). This should be considered as incorrect since the definition of a lock should include the limitation that its bolt must be operated, at least in part, by a key. Such a limitation is excluded from a latch. A lock may have a latch bolt included in its mechanism, but only as a second bolt.

LATCH BOLT (Figs. 36b, 60c). "One having a beveled head, and actuated by a spring, whereby it is retracted by impinging against the strike, and is automatically thrown forward again by the spring" (Towne 1904: 23). In addition it is withdrawn by a mechanism operated by a knob or handle. Also known as a spring bolt.

LATCH LOCK. "The bolt is moved or shot by the action of a spring, and can be drawn back by means of a handle attached to the inner side of a lock, or by a key applied to the outside" (Tomlinson 1854, 2: 193). Such a definition could also be applied to a night latch. Butter (1968: 155) identifies the term as American "sometimes used for a deadlocking night latch."

LATH. "A bolt tail which is comparatively thin and flat especially if made of sheet metal" (Butter 1968: 14). Many of the bolt tails described here may qualify to be known as laths although the available sources do not go so far as to identify examples of lath-type tails.

LEVER. The concept of what constitutes a lever varies to some extent; at least in the opinions of some sources there is a definite and specific difference between a lever and a tumbler. Butter (1968: 157) sees it as "a double acting detainer of flat metal to swing on a pivot fixed in the lock case and urged by a spring to come to rest on a stump on the bolt." Although not stated explicitly, this definition appears to agree with the point by Price (1856: 259-60) that a lever is a detainer with gating, and if the gating is on the lock bolt, the detainer should be known as a tumbler. Towne (1904: 24) defines lever as an abbreviation for lever tumbler, which term is seen in turn by Butter (1968: 161) as an American equivalent for

lever. Definitions by Eras (1957: 14) or Stuart (1959: 276) are not clear on whether they are limited to having the gating only on the lever.

LEVER HANDLE. "A bent handle for actuating the bolt of a lock and used in place of a knob" (Towne 1904: 24); "it is pressed down instead of being gripped and turned" (Butter 1968: 159)

LEVER LOCK. Indicating that a lock contains levers (Stuart 1959: 276; Butter 1968: 160)

LEVER STUMP. "The stump in a lock on which the levers swing" (Butter 1968: 160)

LEVER TUMBLER. "A lock tumbler having a pivotal action" (Towne 1904: 24). Such a definition is not particularly helpful in sorting out the question of what constitutes a lever and what a tumbler. It would appear that Towne is combining what others see as levers and tumblers into a single category of lever tumbler as distinct from pin tumbler.

LIP. "The portion of a striking plate or staple on which the spring bolt of a lock or latch first strikes when the door is being closed" (Butter 1968: 163)

LIVE BOLT. "Sometimes used for a spring bolt" (Butter 1968: 163). The term appears unnecessary.

LOCK. "An instrument for securing a door...by means of an interior bolt which can not or ought not to be capable of being moved, except by the application of a key or lever, applied to it from without" (Tomlinson 1854, 2: 193). To allow for its more appropriate general application, the limitation to doors should be eliminated from the above definition. The above definition would apply satisfactorily to a door lock. As stated here, and acknowledged by most others on the subject (Knight 1876-77, 2: 1338; Towne 1904: 105; Zara 1969: 15), a lock consists of a bolt which must be operated by a key. Zara (1969: 15) also mentions a third feature: that it must have obstacles to the use of incorrect keys. This is generally correct, but simple locks with virtually no obstacles also exist. The limitation that a lock have a dead bolt (Towne 1904: 24) is not necessary; however, some part of the bolt's operation must be with a key. The idea expressed by Stephen (1962: 9) that the barrel bolt "could well be called the simplest of all true locks....the only key you need...is your finger" is overly simplistic since the finger can not be considered as a true key.

LOCK BOLT (Fig. 20e). A bolt requiring a key for all or part of its operation. The term as such is not used by any of the sources. Butter (1968: 13) uses it as one definition of "bolt." In identifying the bolts of a lock, it would be preferable to be more

specific than just "bolt." A lock bolt can be of a number of forms such as "dead" or "latching." The term "dead bolt" should not be used as an equivalent for "lock bolt."

LOCK COVER. "Is screwed to the lock plate to cover the moving parts and to keep them in place" (Eras 1957: 14). Also known as "cover plate" or "cap."

LOCK PLATE. "The part on which the other pieces of a lock, whether fixed or movable, are mounted and fitted to make a working assembly" (Butter 1968: 167). My own preference is to use "main plate" for this purpose although this is not a term used by any of the other sources. In terms of its function in a lock, the term "main plate" is a more specific description.

LOCKED OUT. A term used by Price (1856: 241) for "thrown"; however, "thrown" is probably a more suitable and certainly a more common term

LOCKING LATCH. "Act as latches, but can be locked by the turn of the key to make impossible the withdrawal of the bolt by the knob" (Butter 1931: 8). This is probably a description of a deadlocking night latch, which is a more precise and complete designation. The term is not repeated by Butter (1968).

LOCKING PLATE. "The part usually of flat metal, into or behind which, when fixed, the dead bolt of a lock shoots" (Butter 1968: 169). There is no obvious difference between this and the same author's "striking plate" (Butter 1968: 256).

LUG. "A projection from or attachment to an article by which it may be held in place" (Butter 1968: 172). A number of projections in a lock case or mechanism can be designated generally as lugs; however, where possible, more specific terms should be applied to identify the function of a lug.

MAIN PLATE. The plate to which the various parts of a mechanism are attached. The term is not used by other sources on locks; it has some value in acknowledging the importance of the plate.

MAIN WARD. A term used by Moxon (1703: 24, Pl. 2, Fig. 3) for a circle ward on the cover plate. Such a use is inappropriate since such a ward is of no greater importance than any other.

MECHANISM. "Consists of fixed obstructions - wards, guards and bullets - and movable detainers such as tumblers and levers" (Stuart 1959: 276) or, in a more general sense, "the arrangement of parts and the way in which the parts perform in order to provide the differing and security elements in a key operated lock" (Butter 1968: 189)

MINERAL. As applied to ceramic knobs, "a tawny brown, irregularly striped" (Towne 1904: 168)

MORTISE DRAWBACK LOCK. "Constructed with but one spring-bolt, but which can be withdrawn by the knob, and locked out further by the key" (Price 1856: 810). This involves the operation of deadlocking (Butter 1968: 45).

MORTISE LOCK. "Adapted to be inserted into a mortise in the edge of the door" (Knight 1876-77, 2: 1481). Other sources provide basically the same definition (Towne 1904: 25; Eras 1957: 14, 125; Butter 1931: 7, 61; 1968: 195). Butter (1968: 195) is misleading in including the feature that it is a two-bolt lock in his definition; the number of bolts is irrelevant for the designation of a lock as a mortise type.

NARROW-CASE RIM LOCK. "Made chiefly for fixing on the narrow rails of panelled doors" (Butter 1968: 196). As illustrated by Butter (1968: Fig. 348), this is one form of horizontal lock as defined by Towne (1904: 22).

NIB WARD. "The simplest form of ward made by pressing inwards a portion of the metal of the case or cap of the lock" (Butter 1968: 196)

NIGHT BOLT. A sliding bolt associated with rim locks, "frequently located on the bottom edge" and which can "be operated only by hand on the inside of the door" (Kauffman 1966: 108). Price (1856: 808) also refers to it as a "private bolt."

NIGHT LATCH. "Made to open on the inside by drawing back the knob, and outside with the key only. They are usually made to spring only, but can, if required, be made to lock as well. There is also a small vertical slide that fits into the bolt, which either fastens the bolt back altogether, or when the bolt is shot out" (Price 1856: 807). Other sources provide basically the same definition, but none are as complete as the above (Eras 1957: 15; Butter 1931: 7-8; 1968: 197; Stuart 1959: 276; Zara 1969: 9).

NOSE. "The edge of the bit of a bit key most remote from the shank" (Butter 1968: 150)

NOSE WARD. A term used without definition by Price (1856: 225); presumably associated in some way with the nose of a bit

ONE-SIDE LOCK. "A lock which has a keyhole in one side only of the case for operation from outside or inside but not from both (Butter 1968: 200)

PARACENTRIC. "An arbitrary term adopted by the makers of the YALE LOCK to designate a peculiar form of key and key-way, the cross section of which shows ribs projecting from opposite sides of the key-way

past its center line, and extending longitudinally throughout its length, thereby preventing the use of picking tools; the opposite sides of the key being grooved to correspond with the contour of the key-way, and the key and key-way thus being interlocked throughout its length" (Towne 1904: 25)

PARACENTRIC KEY. One having a paracentric cross-section, as defined above, which superseded the corrugated key "about 1892" (Towne 1904: 41)

PEG WARD. "A combination of wards resembling a sash ward but fixed by pegs to the lock case" (Butter 1968: 205). This is not a particularly clear definition, but further clarification is not available. Since a sash ward is also attached to the lock case, the difference may lie in that a sash ward is finished/shaped after being attached whereas a peg ward is shaped prior to being attached.

PILLAR. "A part usually made of round rod for fixing in the case of a lock. Many pillars are drilled and tapped for a screw" (Butter 1968: 207). A term identifying the form of an item, not its function.

PIN. "The lower portion of a pin tumbler" (Towne 1904: 71)

PIN CHAMBER. The chamber containing a pin tumbler (Towne 1904: 71)

PIN HOLE. A term used without any indication of definition by Hughes (1957: 100) as part of a rim lock

PIN KEY. A key having "a solid circular shank and a projecting bit" (Butter 1968: 208). To be more specific, this is a key with a solid pin, in contrast to a hollow pin of a pipe key. Frank (1950: 50) also points out that the pin extends beyond the bit and fits into "a second keyhole at the opposite side of the lock."

PIN LOCK. "One which is applied to the surface of the door, not mortised into it" (Hopkins 1928: 19). The origin or justification for this term is completely unknown and it is preferable not to use it.

PIN TUMBLER. "A small sliding pin actuated by the key, and dogging the plug or key-hub, by which motion is transmitted to the bolt, as, for example, in a Yale Lock" (Towne 1904: 26). These are the tumblers of a cylinder lock, consisting of two parts each, the pin and the driver. The pin rests in the pin chamber of the plug and the driver rests partly in the pin chamber of the cylinder and partly in that of the plug. In order for the plug to be released so that it can turn and move the lock bolt, each pin tumbler must be raised so that the juncture between pin and driver coincides with the juncture between plug and cylinder.

PIPE KEY. "A round key having a hole drilled into its end to fit over a drill pin in the lock" (Towne 1904: 26). The term applies to ward-lock type keys. These can also be described as hollow pin keys and are also known as barrel keys.

PIVOT. "A stump, pin or centre on which a moving part may swing" (Butter 1968: 211). This can be identified more explicitly by identifying the part which pivots on them, such as tumbler pivot.

PLAIN ACTION. Having only a single spring both to throw the latch bolt and to return the follower and spindle to their position of rest (Butter 1968: 211). The term is used in conjunction with others, such as "crank" or "frog," which further identify the nature of the action; it is inadequate by itself to provide a complete description of a type of action.

PLAIN LOCK. A lock having "no wards at all" (Hebert 1836, 2: 109)

PLAIN SPINDLE. A spindle consisting of "a plain length of square bar" (Butter 1968: 211)

PLAIN STOCK LOCK (Fig. 4). A stock lock having "a block of wood into which each part of the lock is imbedded individually" (Streeter 1970: 254)

PLATE LOCK. "The working parts are exposed, being riveted to a heavy hatchet-shaped plate of wrought iron fixed flat against the wood" (Hughes 1957: 100). Stuart (1959: 276) uses the same definition except to be more specific in stating that it is "fixed flat against the door." The same view is held by Salzman (1967: 302) in discussing references to plate locks extending back to the 14th century. Hughes (1957: 100) goes on to say that when the lock is first let into a block of wood which is then attached to the door, it is known as a stock lock. The statement by Butter (1968: 212) that plate lock is "another name for a wood stock lock" should be considered as incorrect. Plate locks should also not be confused with flush locks since only the latter is let into the surface of the door. It is also possible that plate locks were attached with the plate flat against the door and therefore with the mechanism exposed to view and projecting above the level of the door's surface. Attachment of a flush lock is the opposite, with the mechanism hidden behind the plate.

PLATE STOCK LOCK (Fig. 5). A stock lock which "is first made complete on its plate, which is then inserted in the cavity of the stock prepared for its reception" (Price 1856: 837). Although Price provides a good definition for such a lock, he does not refer to it as a plate stock lock, using instead "stock lock" and distinguishing it from a plain stock lock by referring to the latter as a "Banbury lock."

POCKET. "The name of each segmental space in a lever which, while surrounding the bolt stump, allows the lever to rise and fall whether the lock bolt is in or out" (Butter 1968: 212)

PORCELAIN (Fig. 84a, b). As applied to ceramic knobs, "a pure white" (Towne 1904: 168). There is no implication of material intended by this term.

POT. A term used by Moxon (1703: 23, Pl. 2, Fig. 4) for a swelling on the key shank at the bow. The feature appears to be only ornamental. Moxon also refers to it as the "bread."

RAKE WARD. A ward consisting of a pin or pillar with a series of parallel teeth or small plates attached, resembling a rake or a comb, and attached to the main plate so that the pillar is perpendicular to the plate and the teeth are parallel to it. It is attached in such a way as to interact with a similar arrangement of teeth on the nose of a key bit. This term does not appear in English sources, possibly because it is not a feature of English locks, but is used for French locks (Duhamel du Monceau 1767: Pl. 18, Fig. 9).

REIN. "The name of each of the two spread out members of feather or spiral springs" (Butter 1968: 219)

REVERSIBLE BOLT. "One that can be turned over to make a lock suitable for another direction of door opening" (Butter 1968: 220). This is a feature usually required of a latch bolt.

REVERSIBLE LOCK. "One in which the latch-bolt can be reversed to adapt the lock to a door of either hand" (Towne 1904: 27); considered by Butter (1968: 221) as an undesirable term because of possible confusion with "reversible bolt"

RIM. "A term applied to articles of hardware intended to be applied to the surface of doors, windows, etc., in contradistinction to those intended to be mortised into the wood" (Towne 1904: 27). Furthermore, such items require a case with metal sides. "The part or parts which form top, rear and bottom edges of mortice, rim and other lock cases" (Butter 1968: 223). The term can then have two separate applications: it can identify a type of lock or it can identify a part of a lock. A mortise lock can have a rim, even though it is not a rim lock. Possibilities of confusion can be avoided by being clear in the use of this term whether a lock type or a lock part is intended.

RIM DEAD LOCK. Having only a dead bolt and intended to be attached to the surface of a door (Price 1856: 808; Butter 1968: 224)

RIM LOCK. A lock having a metal housing, with metal sides, and intended to be attached to the surface of a door. A number of sources fail to combine the two major characteristics, the metal housing and the attachment to the surface, in their definitions (Hughes 1957: 100; Eras 1957: 15, 125; Towne 1904: 28; Butter 1968: 271). One source (Appletons' Cyclopaedia 1882, 2: 298) misses the mark completely by stating that it is "named from its shape." Another irrelevancy is added by Butter (1968: 224) and Tildesley (1967: 87) in giving such a lock more than one bolt; the number of bolts is a factor only when specifying a particular type of rim lock.

RIM RIVET. "An unusual kind of rivet for attaching the rim of certain locks to the plate" (Butter 1968: 224), consisting of a pin with a tenon at one end and another lug or tenon approximately at its midpoint. The rivet is attached perpendicular to the long axis of a rim plate with the middle tenon passed through a hole in the rim and riveted, and the end tenon passed through a hole in the main plate and riveted. A rim plate is held in place by at least two rim rivets.

ROSE. "The circular or other symmetrical part to lie against the surface of a door and so provide a bearing or ornamental finish for a knob or turning handle" (Butter 1968: 227)

ROUND KEY. "With solid cylindrical shank and stem, and with a wing bit" (Towne 1904: 105)

RUNNER. An intermediate sliding piece for transmission of motion from follower to the bolt (Butter 1968: 228)

SASH WARD. "Solid brass lumps riveted in the case of the lock, and then shaped with a cutter as required" (Butter 1931: 16); also serving as a keyhole bush (Butter 1968: 231)

SCOTCH SPRING (Fig. 20c). "A fairly long tapered spring" (Butter 1968: 232), usually flat or slight curved

SCROLL SPRING. "Made of flat strip formed usually at its centre to fit over a square stump in the lock case, the remainder of the metal being wound like a clock spring and finished with an extension to act on the bolt or other part" (Butter 1968: 233)

SHANK. "That part which connects the bit or wing with the bow or handle" (Towne 1904: 29). This applies only to ward-lock keys.

SHOOT. "The outward movement of a lock bolt and the distance which it travels under the action of a spring or key. Shoot applies more particularly to spring bolts, throw being a better word for dead bolts" (Butter 1968: 237).

SIDE PLATE. The side of a lock rim, consisting of a front, back, top and bottom

SIDE WARDS. "The name is given to specially shaped keyholes" (Ramsell 1937: 20). The term "bullet" has already been noted for these.

SINGLE-ACTING TUMBLER (Fig. 20d). One which has only to be moved out of the way to allow the bolt to move, its "chief function, however, is not to provide security but to hold the bolt in or out" (Butter 1931: 16)

SINGLE-THROW LOCK. "One with a bolt which is shot out by one turn of the key only" (Eras 1957: 16). In the event of a multiple-bolt lock, the term "single throw" can also be used to characterize only the lock bolt.

SLIDE BOLT. "A small supplementary finger operated bolt in certain latches and night latches, generally for inside use only" (Butter 1968: 240). "Night bolt" is an alternative and preferable term for this since "slide bolt" or "sliding bolt" has a much broader application than for locks only.

SLIDE KNOB. "The knob on certain latches and locks which slides, as distinct from turning, to withdraw the bolt" (Butter 1968: 244)

SLIDING TUMBLER. "A lock tumbler having a sliding motion" (Towne 1904: 31)

SLOT. That part of the keyhole for a ward-lock key corresponding to the bit of the key

SOLID RIM. A "rim of flat section...used for making the cases of certain rim locks" (Butter 1968: 244)

SOLID WARD. Heavier wards than the ordinary, cast in brass and finished by turning on a lathe (Hebert 1836, 2: 109; Tomlinson 1854, 2: 194; Price 1856: 224). Although sources do not specifically discuss a difference with sash wards, it appears that sash wards are finished after being attached to the lock case whereas solid wards are finished prior to being attached. A sash ward is also located only around a keyhole, to provide a bearing surface for a key as well as being a ward. Solid wards can be located anywhere in a lock case.

SPINDLE (Fig. 84f-h). "The axis or shaft, usually of square section, which carries the knobs of a lock, and communicates their motion to the latch mechanism" (Towne 1904: 31). These can be of various types depending on the type of latch being operated and on the manner of knob or handle attachment.

SPRING BOLT. An alternative term for a latch bolt. A bolt with a bevelled head and maintained in a thrown position by a spring. When withdrawn by a knob or in passing the keeper or striking plate, it is thrown automatically by the spring. The term "spring" can also be applied to a lock bolt having a bevelled head and requiring a key only to withdraw it.

SPRING LOCK. A lock having a spring lock bolt so that the bolt is thrown automatically by a spring and requires a key only to withdraw it

SPRING RIM LOCK. Both Price (1856: 808) and Butter (1968: 248) discuss this item in terms of it being a form of night latch in which case the term "night latch" is preferred. A spring rim lock should be a spring lock attached to the surface of a door.

SPRING STOCK LOCK. Discussed only as being a "wooden door-lock of inferior quality" (Knight 1876-77, 2: 1340). This could be a stock lock with a spring lock bolt or a stock lock with a spring bolt. The former is the more likely possibility since the latter is an uncommon arrangement for a stock lock.

SQUARE RIM. Same as solid rim

STAPLE. "The box like fitting on a door jamb into which the bolt or bolts of a rim lock or latch shoot....To suit a lock with a spring bolt, the staple is provided with a lip to make the strike easier and smoother when the door is slammed" (Butter 1968: 251). As illustrated by Butter (1968: Fig. 453), the description is applied to a box-type keeper attached to the surface of a door jamb and used with surface-mounted locks. A staple, in a general sense, is a U-shaped fastening having two shanks which are in some way attached or held in place. It is preferable to use it in application to lock keepers only when the keeper approximates such a general shape. The item defined above is better referred to as a box keeper, a term which implies both a shape and a form of attachment.

STEELE'S PATENT. "A <u>double-handed</u> stock lock, the lock being inserted in the cavity cut out of the stock, or mortised therein" (Price 1856: 419). This would then be a mortise lock except that it is let into the edge of a wooden block rather than the edge of a door. Whether the metal portion of such a lock, separated from its wooden housing, would be recognizable as a stock lock rather than a mortise lock is not certain.

STEM. Of a key, "that part...between the bow and the bit" (Eras 1957: 16). Also known as the "shank."

STEPS. "A name commonly given to the cuts on the outer edge of the bits of keys for lever locks" (Butter 1968: 252). Also defined, but incorrectly, by Frank (1950: 51) as the wards of a key.

STEP WARD. Used by Moxon (1703: 23, Pl. 2, Figs. 3, 4) for a ward surrounding a drill pin on a cover plate. Also mentioned, without definition, by Price (1856: 225).

STOCK LOCK. This term is defined both on the basis of its form and its intended uses; the former is of greatest concern here. A stock lock is one in which "the works...[are] embedded in a cavity cut out of a block of wood to receive them" (Price 1856: 837). It is, therefore, a surface-mounted lock and when attached to a door the mechanism is concealed between the surface of the door and the wooden housing. Stock locks appear in two basic forms, plain or plate, and a lock should be characterized whenever possible as being a plain stock lock or a plate stock lock rather than only a stock lock. Uses mentioned for a stock lock are that they are "for Outer doors" (Neve 1726), "Street-door locks" (Moxon 1703: 22) or "an outside wooden lock for stables, gates, etc." (Knight 1876-77, 2: 1341).

STOP. "That which serves to fasten the bolt or the knob in the locked or unlocked position, usually the latter" (Towne 1904: 31); however, it is preferable to use this term in its more general sense of referring to any means or device for stopping the motion of a bolt either while being thrown or withdrawn. Specific stops can be identified by the bolt they are associated with and by their form.

STRAIGHT. "Applies to the form of a lock which allows it to lie flat on the flat surface of the part to which the lock is fixed" (Butter 1968: 253). The term appears unnecessary in discussing door locks since the identification of an item as a surface-mounted lock already implies that it lies flat against the surface to which it is attached.

STRAIGHT LOCK. "Have a plate screwed flat against the woodwork" (Knight 1876-77, 2: 1340). The comment made for "straight" applies here as well.

STRIKE. "A metal fastening, on the door frame, into which the bolt of a lock is projected to secure the door. Applied both to the flat plate used with mortise locks, and to the projecting box used with rim locks. Synonymous with 'striker', 'striking plate' and 'keeper'" (Towne 1904: 32). Since it can be used for both the plate type and the box type, specific examples should be identified as to their form. The term is identified as American by Butter (1968: 256).

STRIKER. Identified as an alternative for "striking plate" by Butter (1968: 256), but one not as good

STRIKING PLATE. The definition used above for "strike" could apply here as well. This is the preferred term for Butter (1968: 256). Use of the term "plate" is inappropriate in this context since the item is not always a plate; it can also be a staple or a box. To identify the item by its function, it is preferable to designate it as a keeper. Its form can be designated by "staple," "box" or "plate."

STUB. "Another name for a stump but not frequently used nowadays" (Butter 1968: 257)

STUD. Given as an alternative for "stump" by Hobbs (1970: 49). Butter (1968: 257) is uncertain, but suggests that it "may mean a short stump." It may be better to avoid use of the term since "stump" is more common and appears to refer to the same part.

STUMP. This is identified both in a general sense and a specific one. On the one hand it is seen as "that stud which projects at right angles from the face of the bolt, and which passes in and out of the 'slots' through the gating in the levers, or combinations, or other moveable obstructions in the lock" (Price 1856: 259). The same opinion is expressed by numerous others (Zara 1969: 9; Stuart 1959: 277; Butter 1968: 14). This is equivalent to the "bolt stump" discussed above. However, Towne (1904: 32) specifically states that stump is not equivalent to "fence," which is his term for a bolt stump. Tomlinson (1854, 2: 196) and Hobbs (1970: 49) apply the term to a projection on a tumbler. In a more general sense, it is seen as "a circular pin within the case of a lock to guide the different working parts" (Stuart 1959: 277), "of which one or more are necessary in the construction of most locks" (Butter 1968: 257) and which may serve "to receive a screw or rivet" (Towne 1904: 32). It appears preferable to use "stump" as a general term to identify projections of various functions and to use qualifiers to designate stumps of specific functions, such as "bolt stumps," overlooking Towne's opinion that it is not synonymous with "fence" or "tumbler stump."

TAIL. That part of a bolt behind the head. It remains inside the case and serves to transmit motion of the mechanism to the bolt head. Butter (1968: 14) sees it as "particularly useful for that part of a bolt which is behind the head when the names bolt lath and bolt wire do not exactly apply." It should be used to identify a specific part of a bolt with terms such as "lath" or "wire" used to characterize specific forms of tail.

TALON. "The notch or opening in the bolt of a lock with which the key engages to throw the bolt" (Towne 1904: 32). As noted by others (Price 1856: 257; Eras 1957: 16), it is, in fact, the notch with

which the key engages to move the bolt in either direction. Butter (1968: 260) acknowledges that "talon" is also used by some to designate the bolt stump. This latter use should be avoided.

T-HANDLE. "A cross handle for actuating the bolt of a lock and used in place of a knob" (Towne 1904: 32).

THIMBLE. "The socket or bearing on an escutcheon plate to receive the knob shank. Also called Socket" (Towne 1904: 32).

THREAD ESCUTCHEON. "A keyhole escutcheon fitted flush with the wood and showing as a narrow band round the keyhole" (Butter 1968: 261)

THREE-BOLT LOCK. A lock which "has the addition of an interior bolt, not operable from the outside by any means" (Knight 1876-77, 2: 1340). It must also be stated that such a lock has both a lock bolt and a latch bolt. The "interior bolt" is identified above as a "night bolt."

THREE-BOLT RIM LOCK. "Constructed with a spring latch-bolt, which is worked by the knob, a main bolt, which is worked by the key, and a private bolt, which is worked by a slide fixed to the under-side of the rim when the lock is fixed" (Price 1856: 808). With the removal of reference to a rim lock, this definition would suit admirably for any three-bolt lock.

THROW. The act of moving a bolt head out of a housing, through the forend or front plate, to engage with a keeper or catch on the door frame. Butter's preference (1968: 262) is to use "shoot" when this action is applied to a spring bolt.

TOP HOOK. Used by Moxon (1703: 24, Pl. 2, Fig. 2) for a circle ward on the main plate

TOP WARD. A term listed without definition by Price (1856: 225)

TRIPLE-THROW LOCK. One which requires three complete turns of a key to completely throw or withdraw the lock bolt (Butter 1968: 267)

TUMBLER. This term is usually used in the plural and as such is considered as movable obstructions "which prevent movement of the bolt until they are moved into a certain position by the proper key" (Towne 1904: 105). Such a definition would apply more specifically to double-acting tumblers which must be moved to a proper position; a single-acting tumbler has only to be moved out of the way. The essential characteristics are that it is movable and prevents movement of the bolt until moved out of the way. The term is also used by Moxon (1703: 23, Pl. 2, Fig. 2) for an arm intermediate between a spring and a lock bolt (to produce a spring dead bolt).

TUMBLER LOCK. A lock using tumblers as a means of security (Knight 1876-77, 2: 1340). The term is too general to have much of an application since most locks, including cylinder locks, use some form of tumbler and could thus be called tumbler locks.

TWO-BOLT LOCK. "A lock which has both a spring bolt and a dead bolt. On the other hand a two bolt lock is commonly known by the single word lock" (Butter 1968: 270). The latter option should be avoided as being a source of confusion.

TWO-SIDE KEY. "One for a lock which has a keyhole on each side" (Butter 1968: 271). Although not specified, this applies to ward-lock keys and means that the key bit has a symmetrical arrangement of wards.

TWO-SIDE LOCK. A lock which can be operated from either side of a door (Butter 1968: 271)

UPRIGHT LOCK. "One whose major dimension is vertical" (Towne 1904: 32b). This definition is preferable to that provided by Butter (1968: 273) that it is a lock "which has the handle and keyhole on the same vertical line."

VANE. A type of ward consisting of a thin plate along the nose of a bit. These appear in groups separated by narrow gaps, the entire arrangement having the appearance of a comb or rake. This must pass a device with a similar arrangement of plates and gaps attached in the lock case. The term "rake ward" is suggested for the entire arrangement. The vanes differ from the steps in that they are not used to set or move any tumblers.

WARDS. On a lock, these are fixed obstacles "which interfere with the movement of the key unless it has grooves or perforations coinciding with the wards" (Towne 1904: 105). On a key, these are the various grooves or perforations on the bit required for the key to move past the wards in a lock.

WARDED KEY. A key "having grooves or notches, usually in the wing or bit, which coincide with corresponding wards or projections in the lock case or key-hole" (Towne 1904: 32b)

WARDED LOCK. Denotes "no more than that the mechanism comprises wards" (Butter 1968: 275)

WARD LOCK. A lock having wards in its mechanism; therefore, no different from warded lock. I would also like to suggest that this term be used for any lock of a certain general type; that is, any lock requiring a key having a bit projecting from a pin. The key could then be known as a "ward-lock key." In general, wards would appear as a means of security in a ward lock even though these could be of such a simplicity that they would not really offer any serious security. In this general sense, a ward lock would be

distinct from a cylinder lock, which relies on pin tumblers and key-way cross-section for its security.

WARD-LOCK KEY (Fig. 79). A key for a ward lock as that type of lock is defined in the general way above.

WHEELS. An alternative term for circle wards. Historical sources are not too specific on what they intend by this term. Hebert (1836, 2: 109) sees it as "the technical term for wards," Hobbs (1970: 18) sees them as wards of "a common character" and Knight (1876-77, 2: 1340) sees them as "round wards." Butter (1968: 276) is more specific in stating that they are "made of sheet metal of different heights bent into a curve."

WHEEL LOCK. "In which one or more wheels form a part of the interior mechanism" (Knight 1876-77, 2: 1340). Such a designation does not appear entirely necessary; this is a specific type of warded lock and one not too likely to exist.

WING KEY. "One having a wing or projection for operating the bolt or tumblers of a lock" (Towne 1904: 32b). Since "wing" is not a particularly desirable term for the bit, this is also not a desirable term.

WIRE-BOW KEY. "One with an oval bow, generally of oval cross section, tapering to a small projection inside the outer portion of the bow; not commonly made nowadays" (Butter 1968: 277). This is, in fact, one of the most common form of bows on keys of the historic period in North America.

WITHDRAW. The act of moving a bolt head into the housing or case and thereby disengaging it from the keeper or catch.

WOOD STOCK LOCK. This is a term used by Butter (1968: 279) for what should be more appropriately referred to as a plate stock lock. Butter offers "plate lock" as an alternative. The term "wood stock lock" should be avoided since it contributes little to the identification of a lock; other terms are available and the mention of wood in the term is redundant.

YOUNG'S PATENT. A lock "intended as an improvement on Barron's" (Price 1856: 405-6), but also involving a circular cavity in the stock, for a plate stock lock

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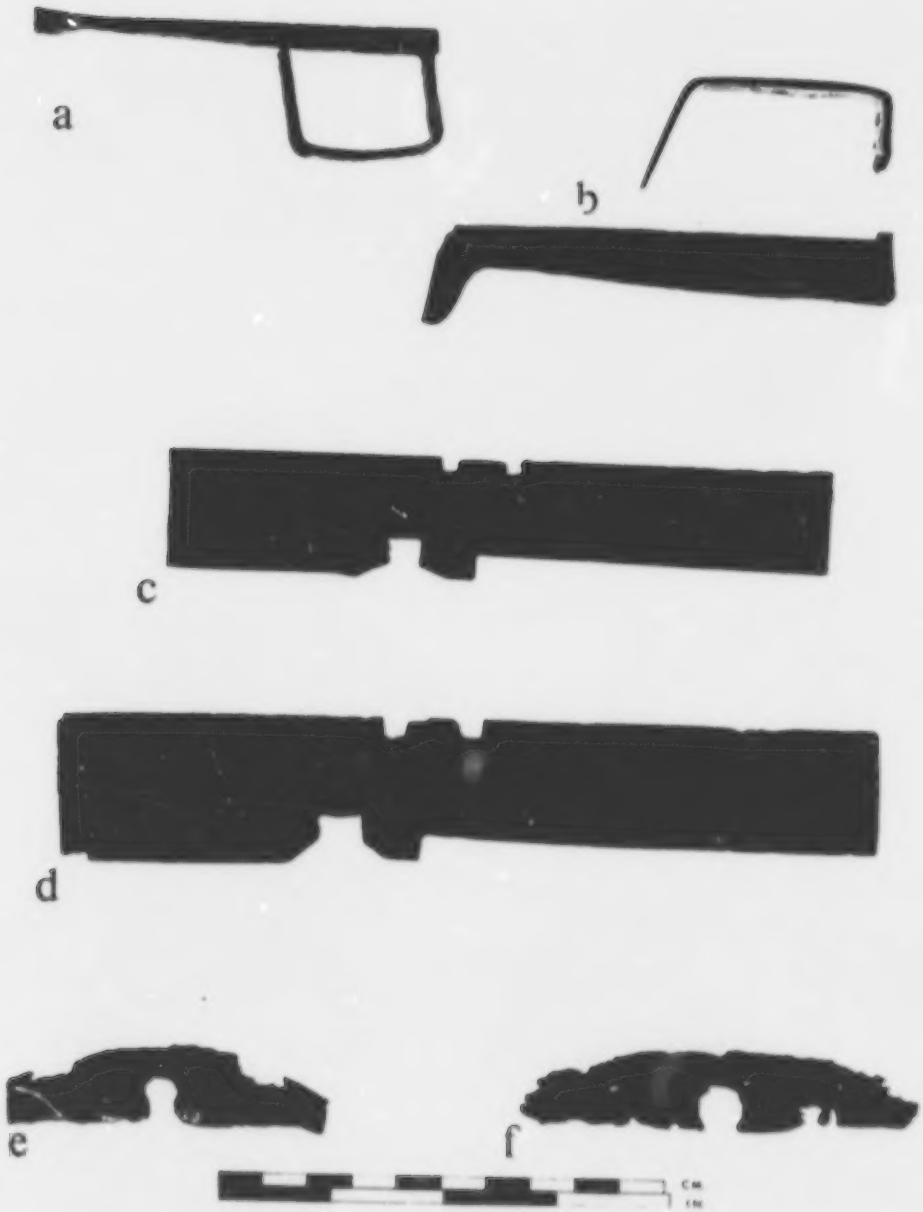
ILLUSTRATIONS

1 Plain stock lock, category 1; example of incomplete lock *in situ*, with part of wood intact and showing original relationship of parts. (Barka and Barka 1976: Fig. 71.)

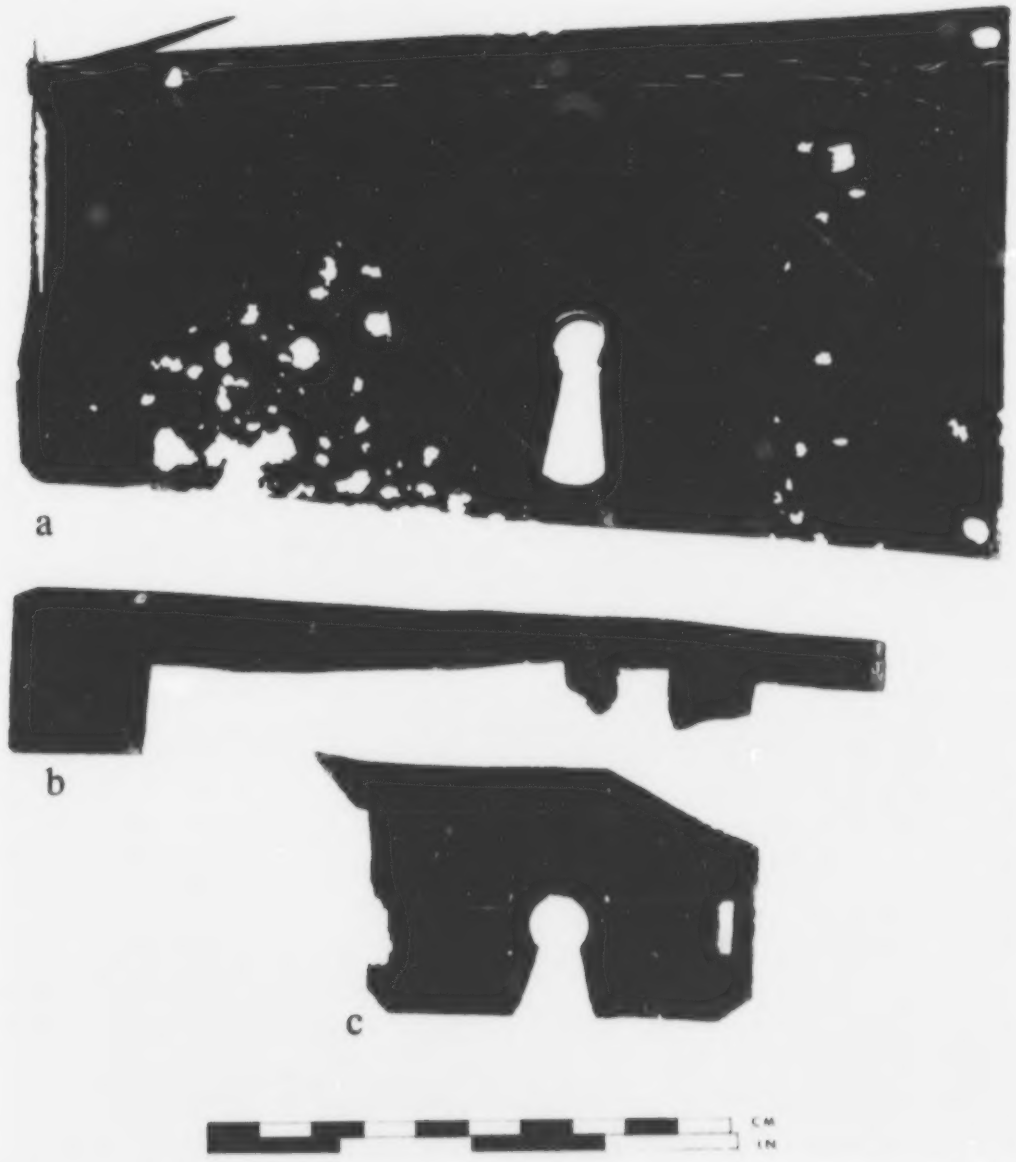


2 Plain stock lock, category 1: a, tumbler (9G4B3-234); b, tumbler (with belly removed and placed above arm); c, d, lock bolt (9G4B3-220, 9G11H1-79); e, f, main or bridge wards (2E22D4-18, 2E25H3-19). (Photo by R. Chan.)

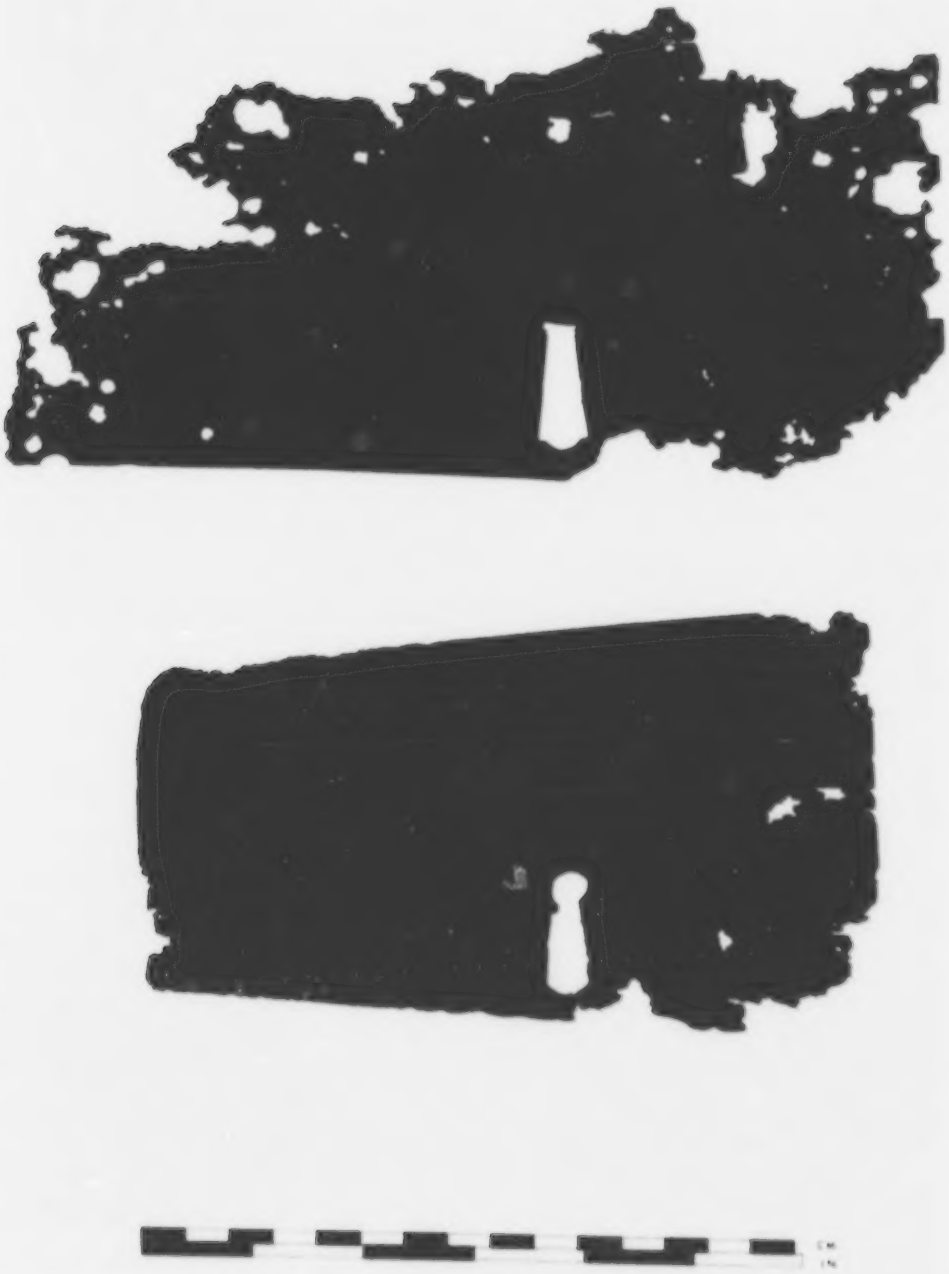
3 Plain stock lock, category 2; view of exterior of case. (Restoration Services Collection). (Photo by R. Chan.)

4 Plain stock lock, category 2; view of interior of case with assembled mechanism. (Restoration Services Collection). (Photo by R. Chan.)

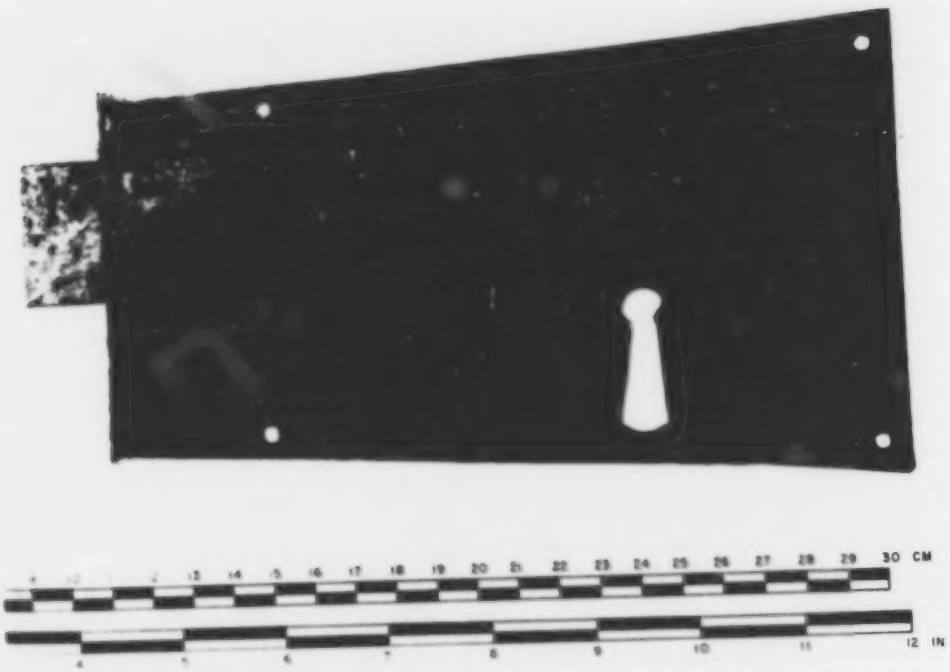
5 Plate stock lock, category 1; view of interior of main plate with assembled mechanism (9G4C3-80). (Photo by R. Chan.)



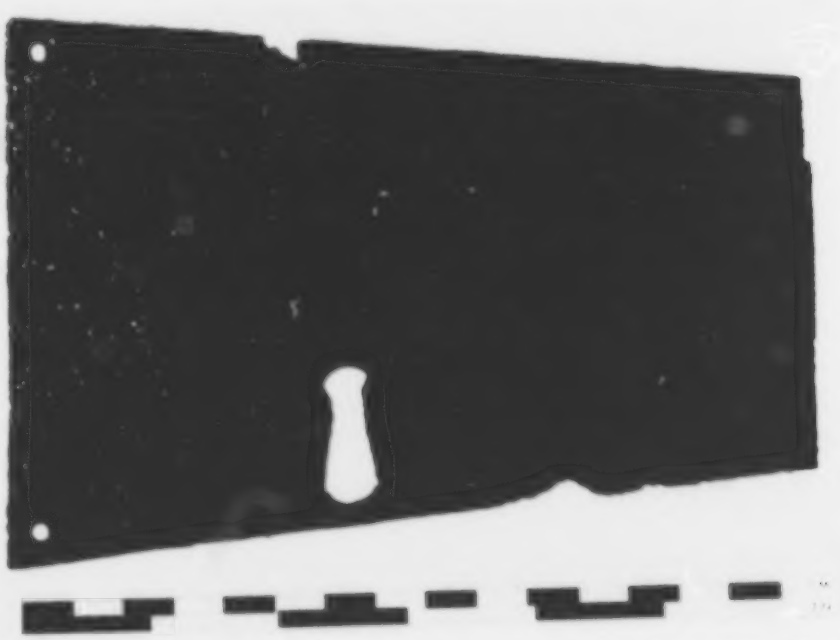
6 Plate stock lock, category 1; view of interior of main plate with partly disassembled mechanism (9G4C3-80): a, main plate and part of mechanism; b, lock bolt; c, cover plate. (Photo by R. Chan.)



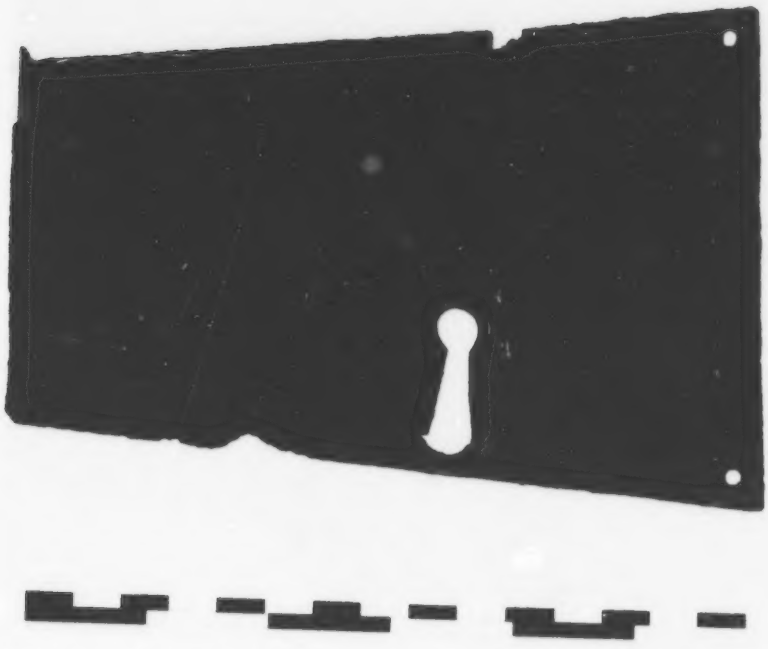
7 Plate stock locks, category 1; incomplete locks: view of interior of main plate (9G5B5-96, 9G51A1-126). (Photo by R. Chan.)



8 Plate stock lock, category 2; view of interior of main plate with assembled mechanism (9G4C8-2).



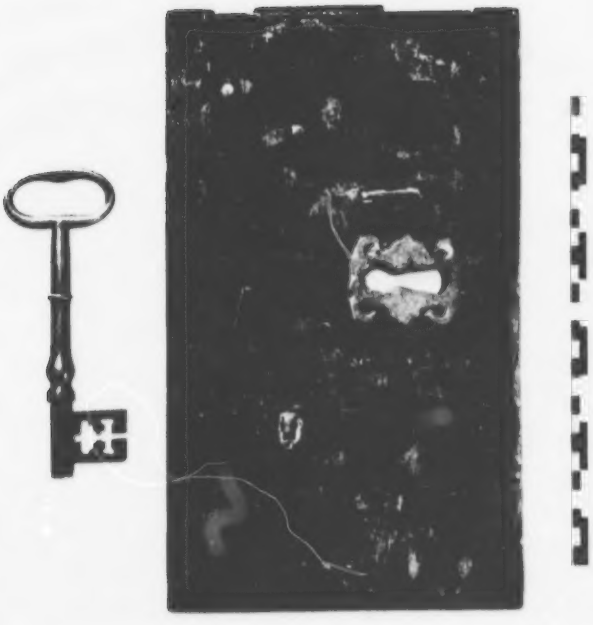
9 Plate stock lock, category 3; view of exterior of main plate (1K5A2-176). (Photo by R. Chan.)



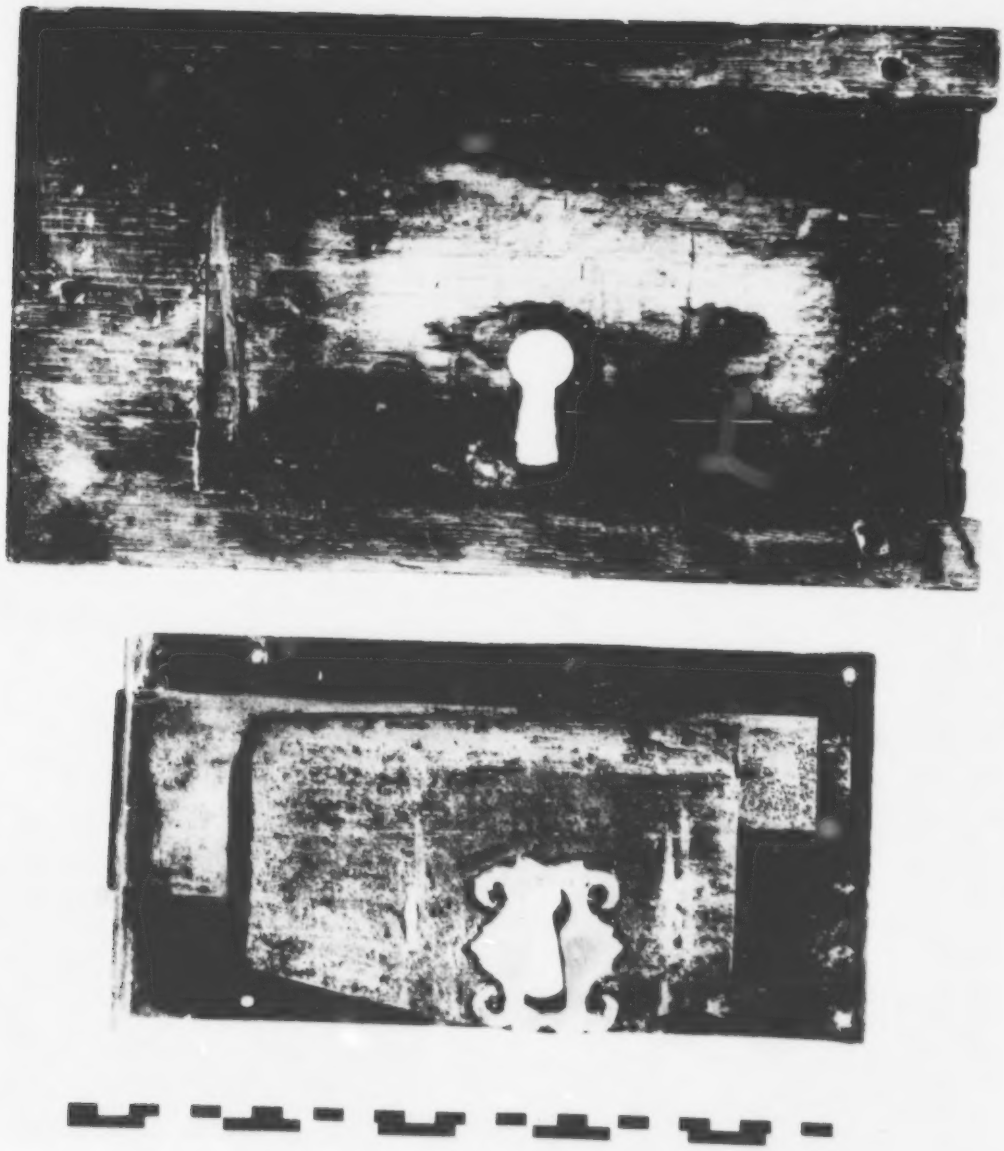
10 Plate stock lock, category 3; view of interior of main plate with assembled mechanism (1K5A2-176). (Photo by R. Chan.)

11 Plate stock lock, category 4; view of interior of main plate with incomplete mechanism (2E22L5-1). (Photo by R. Chan.)

12 Plate stock lock, category 5; view of exterior of case. The key is a recent reproduction. (Jules Reichel Collection, Brockville, Ontario.)



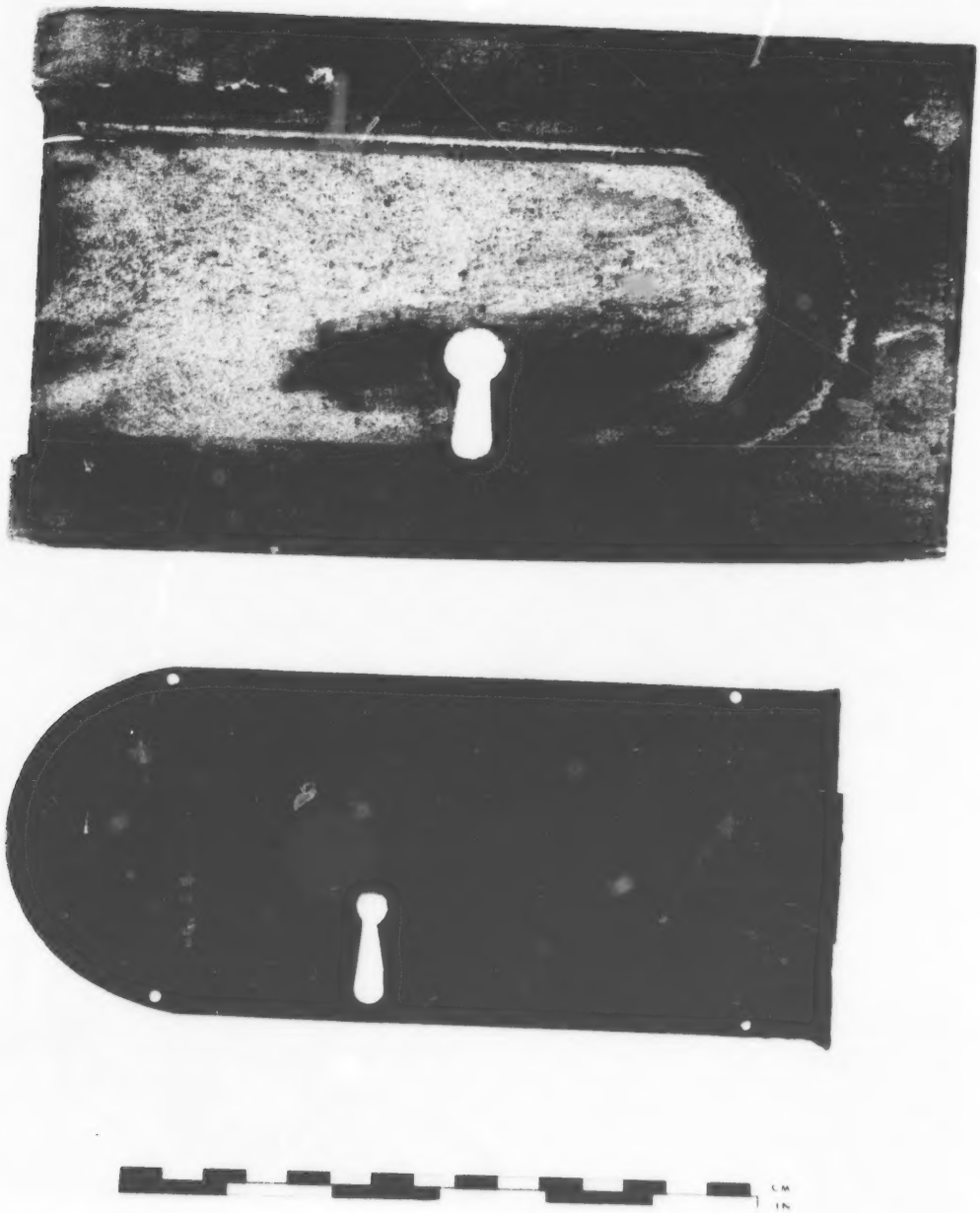
13 Plate stock lock, category 5; view of interior side of case (showing exterior of main plate) with mechanism in place. The key is a recent reproduction. (Jules Reichel Collection, Brockville, Ontario.)



14 Plate stock lock, category 5; view of interior of case and interior of main plate with assembled mechanism. (Jules Reichel Collection, Brockville, Ontario.)

15 Plate stock lock, category 6; view of exterior of case (10H1A2-1). (Photo by R. Chan.)

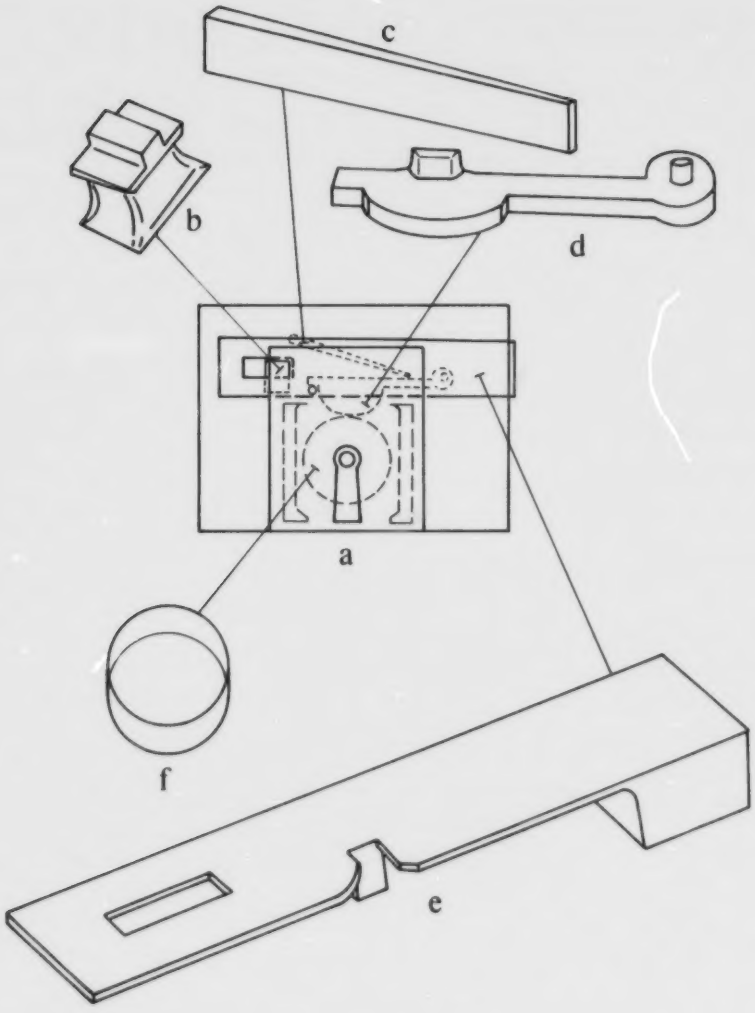
16 Plate stock lock, category 6; view of interior side of case with mechanism in place, showing exterior of main plate (10H1A2-1). (Photo by R. Chan.)



17 Plate stock lock, category 6; view of interior of case and main plate with assembled mechanism (10H1A2-1). (Photo by R. Chan.)

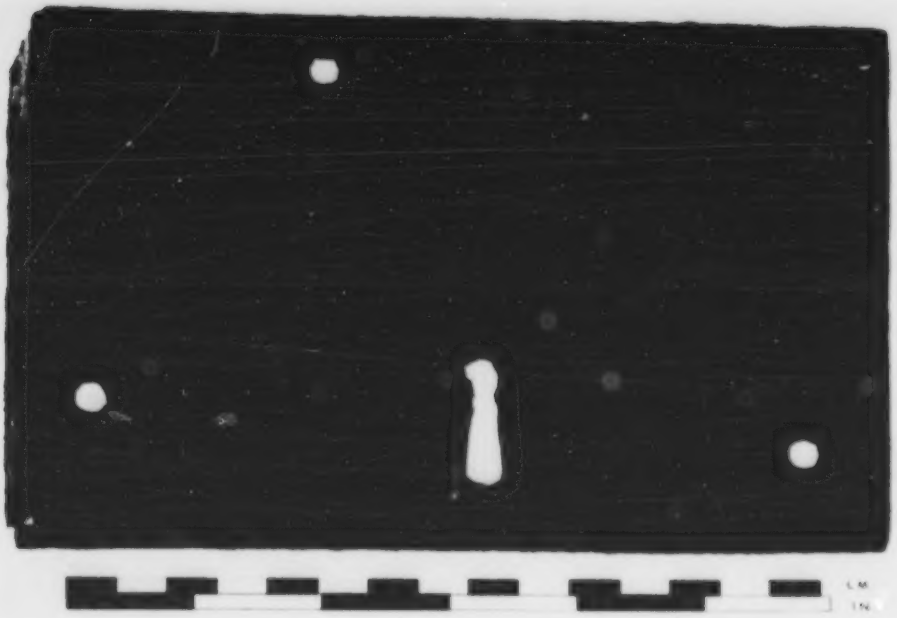
18 Plate stock lock, category 7; view of interior of main plate with incomplete mechanism (9G13E1-12). (Photo by R. Chan.)

19 Plate stock lock, category 8, and lock bolts: a, b, plate stock lock, category 8 (2E20G23-76); c-e, lock bolts, plate stock lock (2E27A17-1, 2A10H2-2, 5G6V1-15); f, g, lock bolts, rim lock (9G4D7-161, 9G5B2-100). (Photo by R. Chan.)

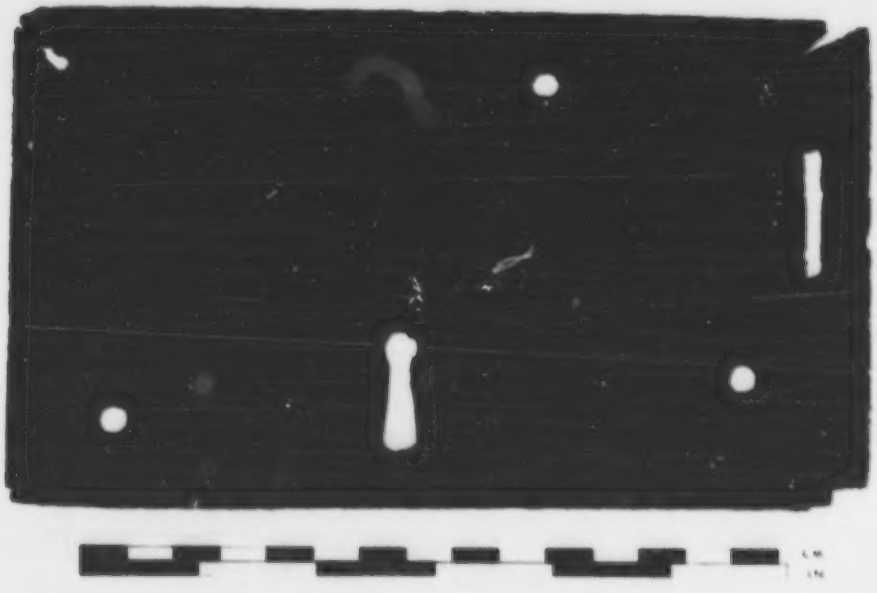


20 Parts of a simple rim lock: a, assembled lock; b, stump (for guiding lock bolt); c, scotch spring; d, tumbler; e, lock bolt; f, circle ward. (Drawing by S. Epps.)

21 Rim locks, category 1; view of interior of cases with incomplete mechanisms (9G60A1-1, 9G39B1-387). (Photo by R. Chan.)



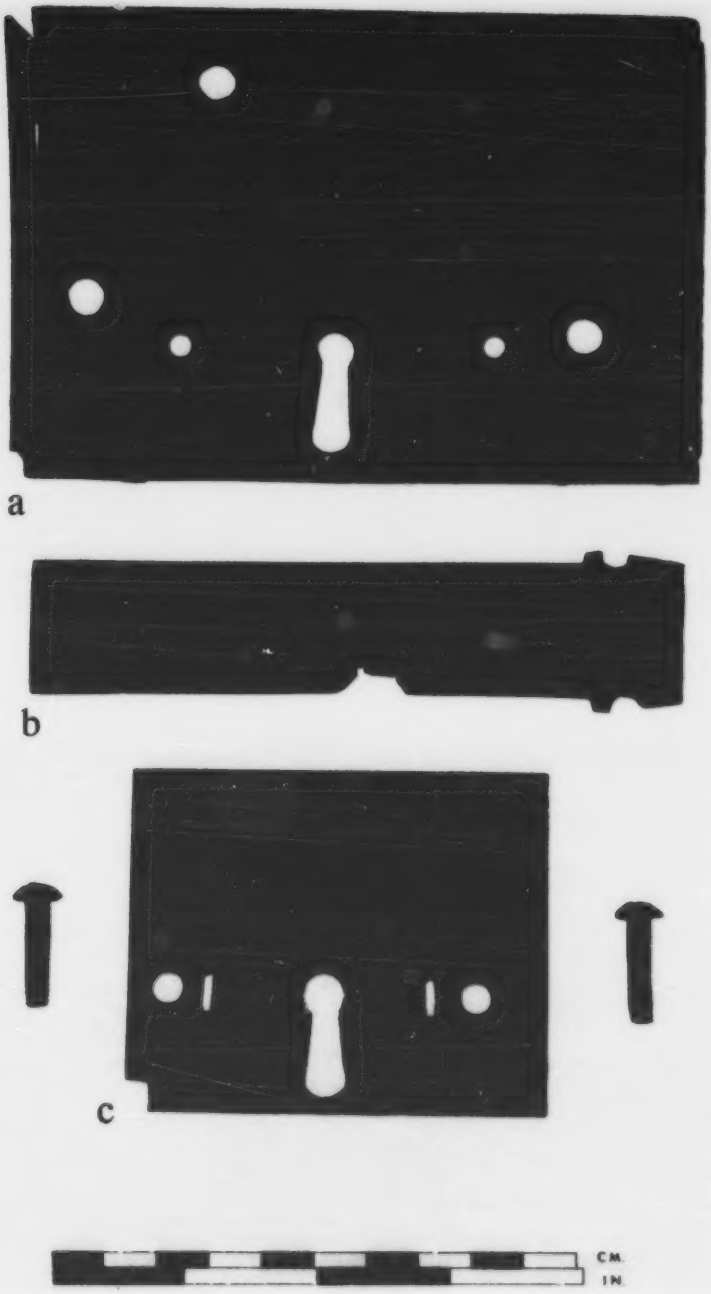
22 Rim lock, category 2; view of exterior of case (5G29C1-7). (Photo by R. Chan.)



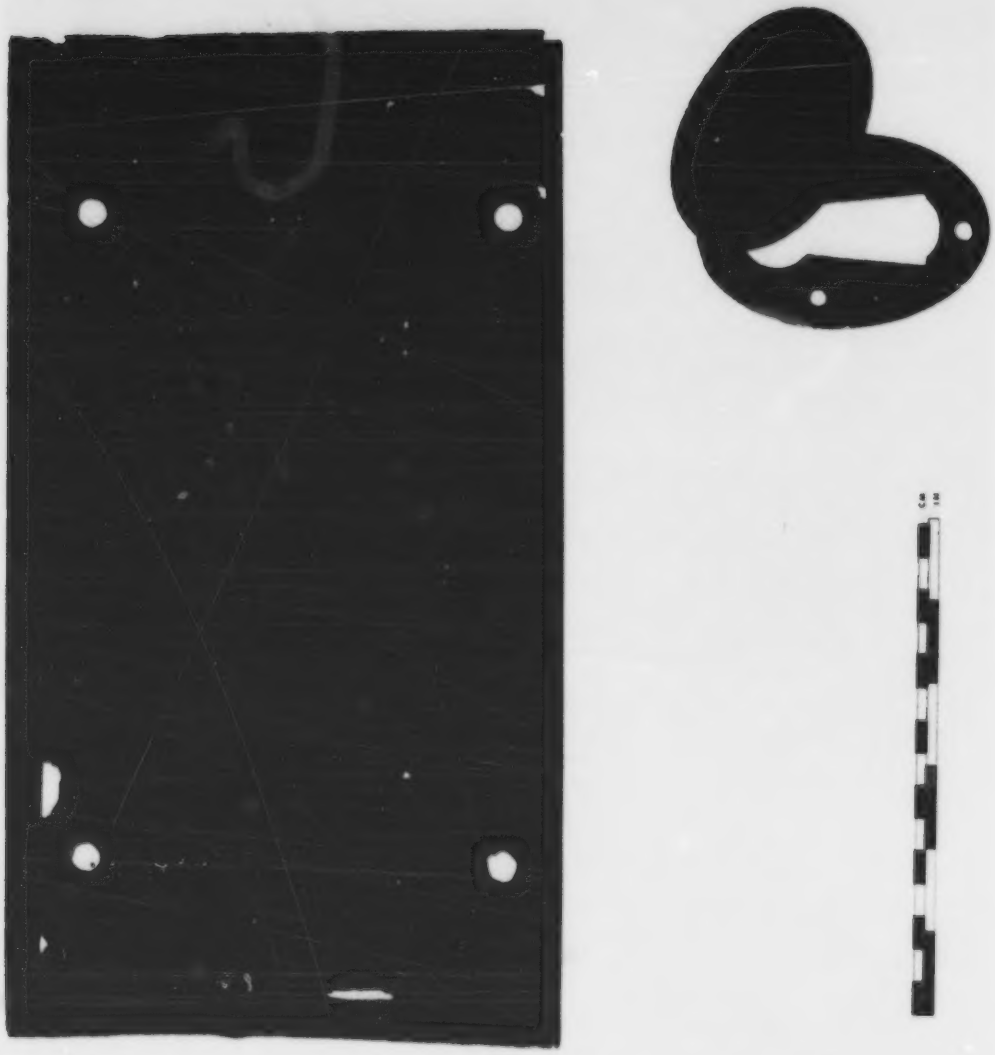
23 Rim lock, category 2; view of interior of case with incomplete mechanism (5G29C1-7). (Photo by R. Chan.)

24 Rim lock, category 3; view of exterior of case (13G1D1-4). (Photo by R. Chan.)

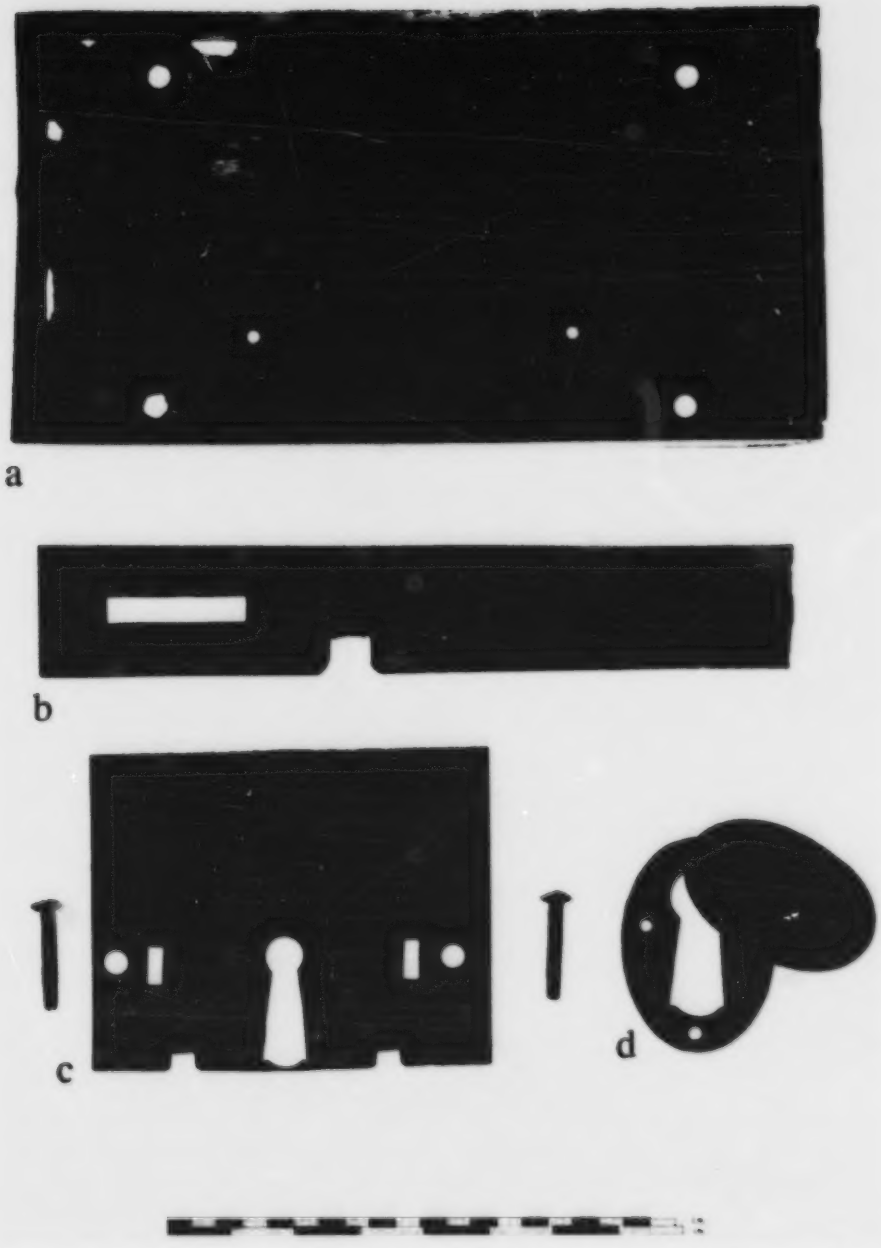
25 Rim lock, category 3; view of interior of case with assembled mechanism (13G1D1-4). (Photo by R. Chan.)



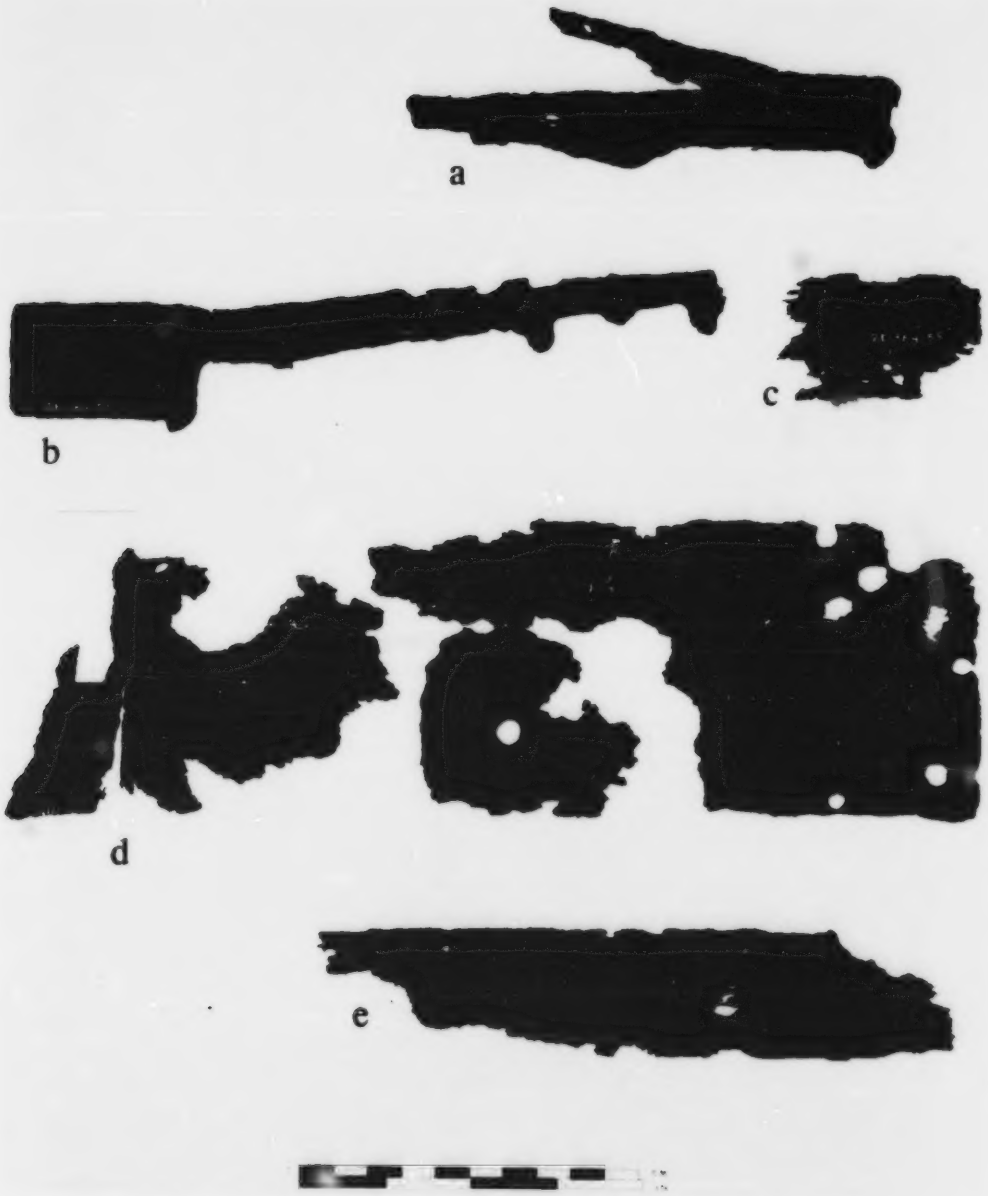
26 Rim lock, category 3; view of interior of case and disassembled mechanism (13G1D1-4): a, housing and part of mechanism; b, lock bolt; c, cover plate with bolts for its attachment. (Photo by R. Chan.)



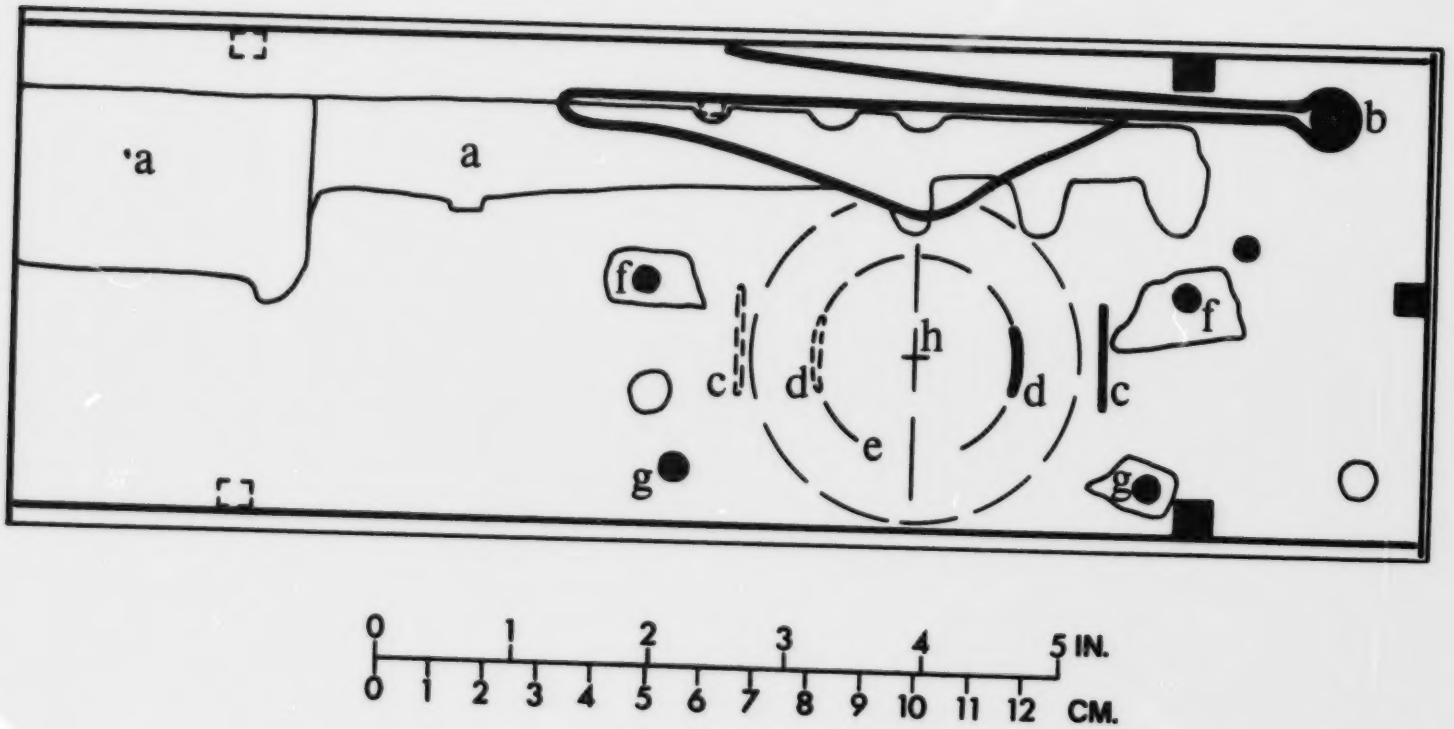
27 Rim lock, category 4; view of interior of case with assembled mechanism including covered keyhole escutcheon (9G3A5-34). (Photo by R. Chan.)



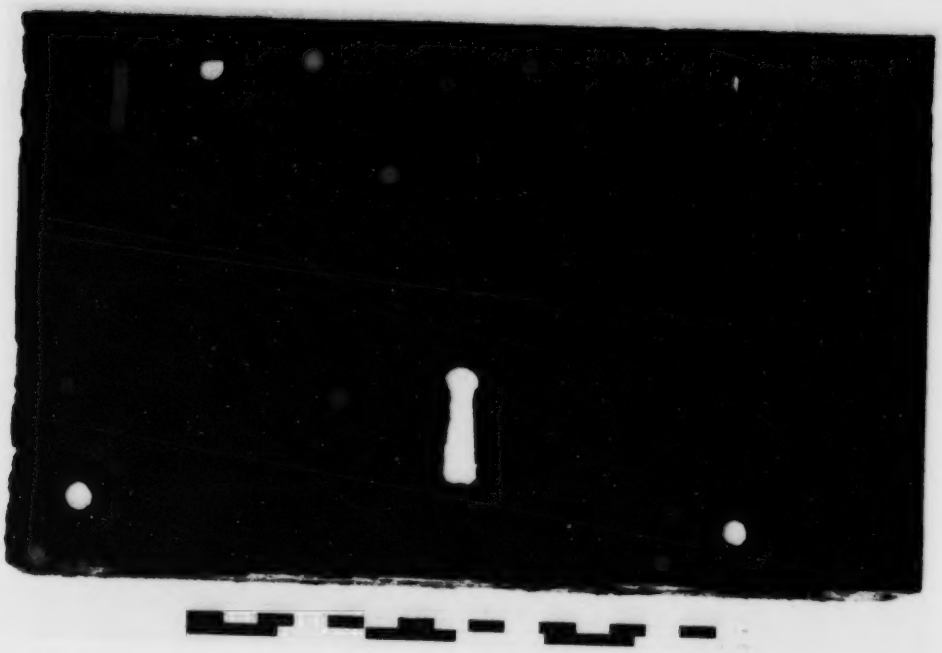
28 Rim lock, category 4; view of interior of case and disassembled mechanism (9G3A5-34): a, case and incomplete mechanism; b, lock bolt; c, cover plate with bolts for fastening it; d, keyhole escutcheon with pivoted cover. (Photo by R. Chan.)



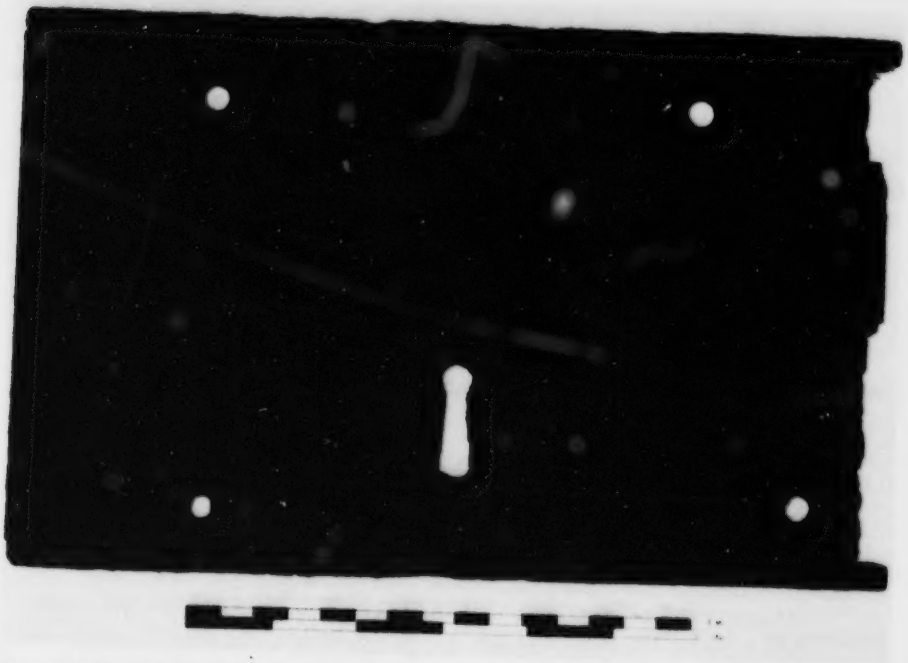
29 Rim lock, category 5, incomplete (2E13K4-55): a, tumbler and tumbler spring; b, lock bolt; c, rim fragment; d, main and front plates with fragments of mechanism attached (the alignment of the two fragments of main plate is approximately correct); e, rim fragment, probably bottom plate. (Photo by J. Jolin.)



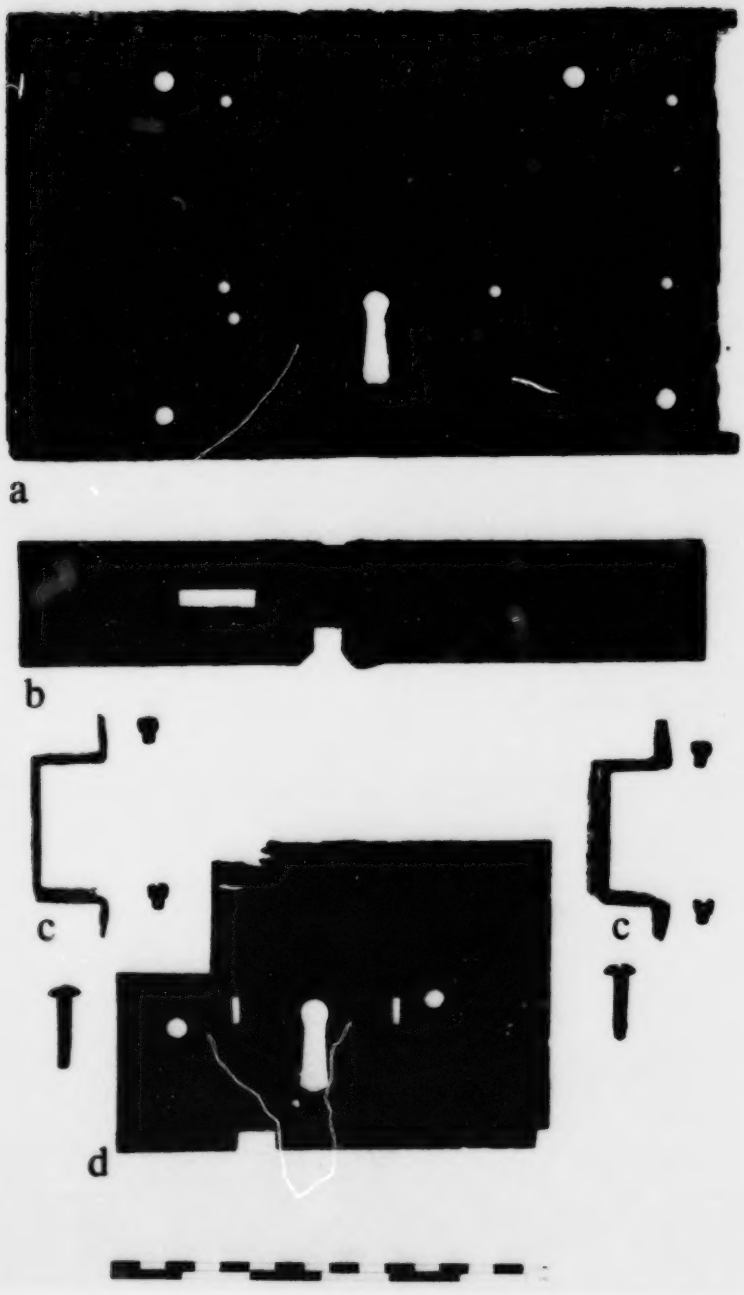
30 Rim lock, category 5, reconstruction (2E13K4-55): a, lock bolt; b, tumbler and tumbler spring; c, probable location of cheeks; d, lugs for attachment of a circle ward; e, line of circle ward; f, possible remains of cover plate, riveted to main plate; g, possible location for rake-type wards; h, probable centre of eye of keyhole. (Drawing by P. Priess.)



31 Rim lock, category 6; view of exterior of case (1K27Z10-3). (Photo by R. Chan.)

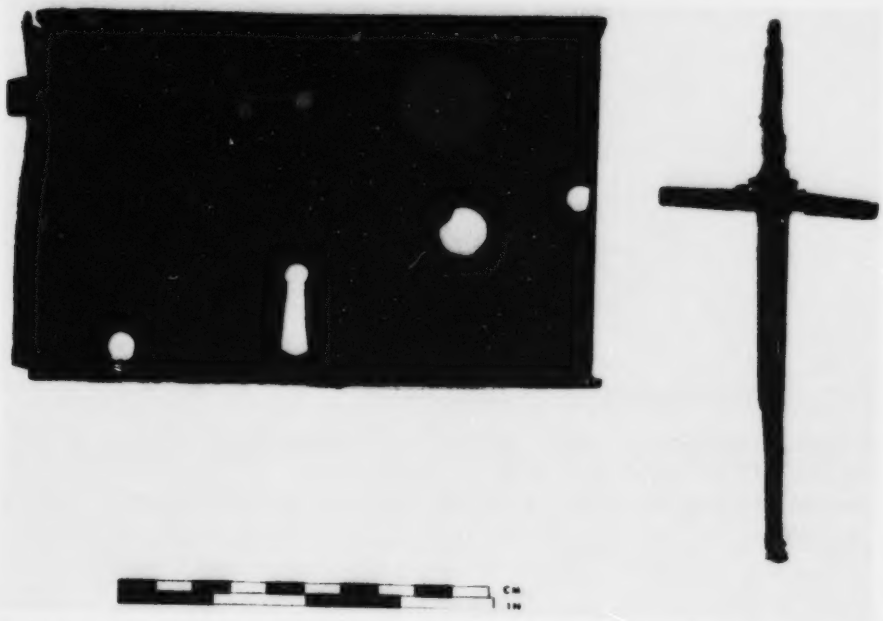


32 Rim lock, category 6; view of interior of case with assembled mechanism (1K27Z10-3). (Photo by R. Chan.)

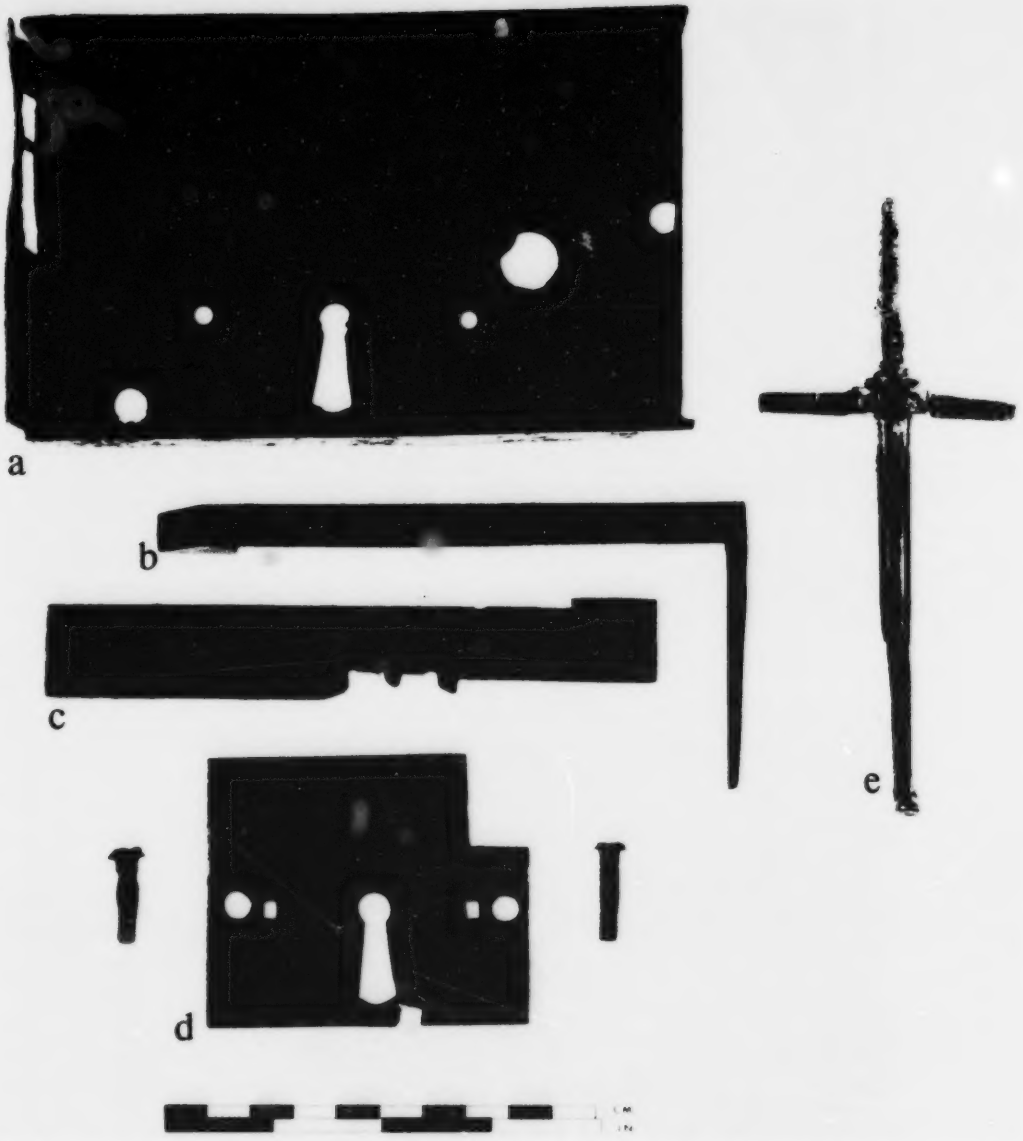


33 Rim lock, category 6; view of interior of case and disassembled mechanism (1K27Z10-3): a, incomplete case with part of mechanism; b, lock bolt; c, guide staples with bolts for attachment; d, cover plate with bolts for attachment. (Photo by R. Chan.)

34 Rim lock, category 7; view of exterior of case (9G4D3-132). (Photo by R. Chan.)

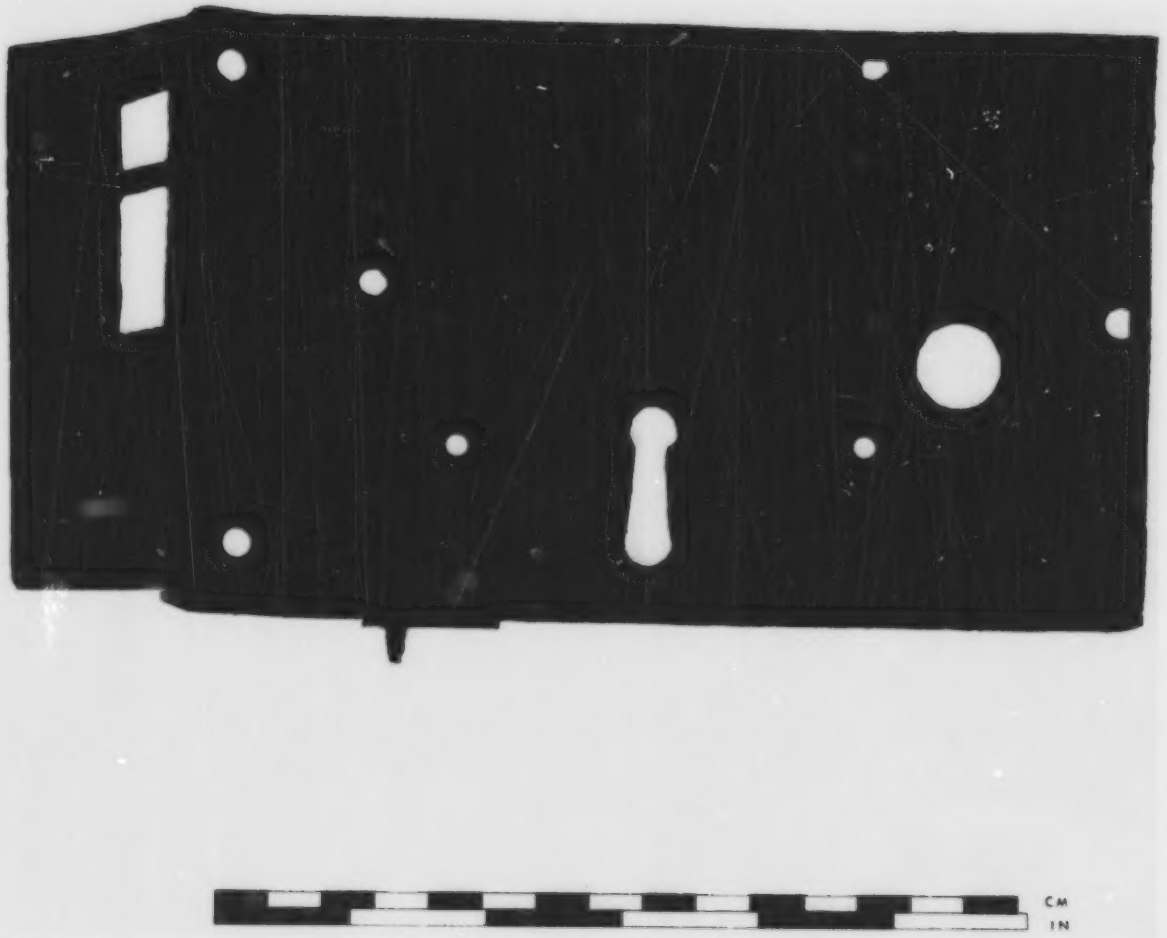


35 Rim lock, category 7; view of interior of case with assembled mechanism, spindle and follower (9G4D3-132). (Photo by R. Chan.)

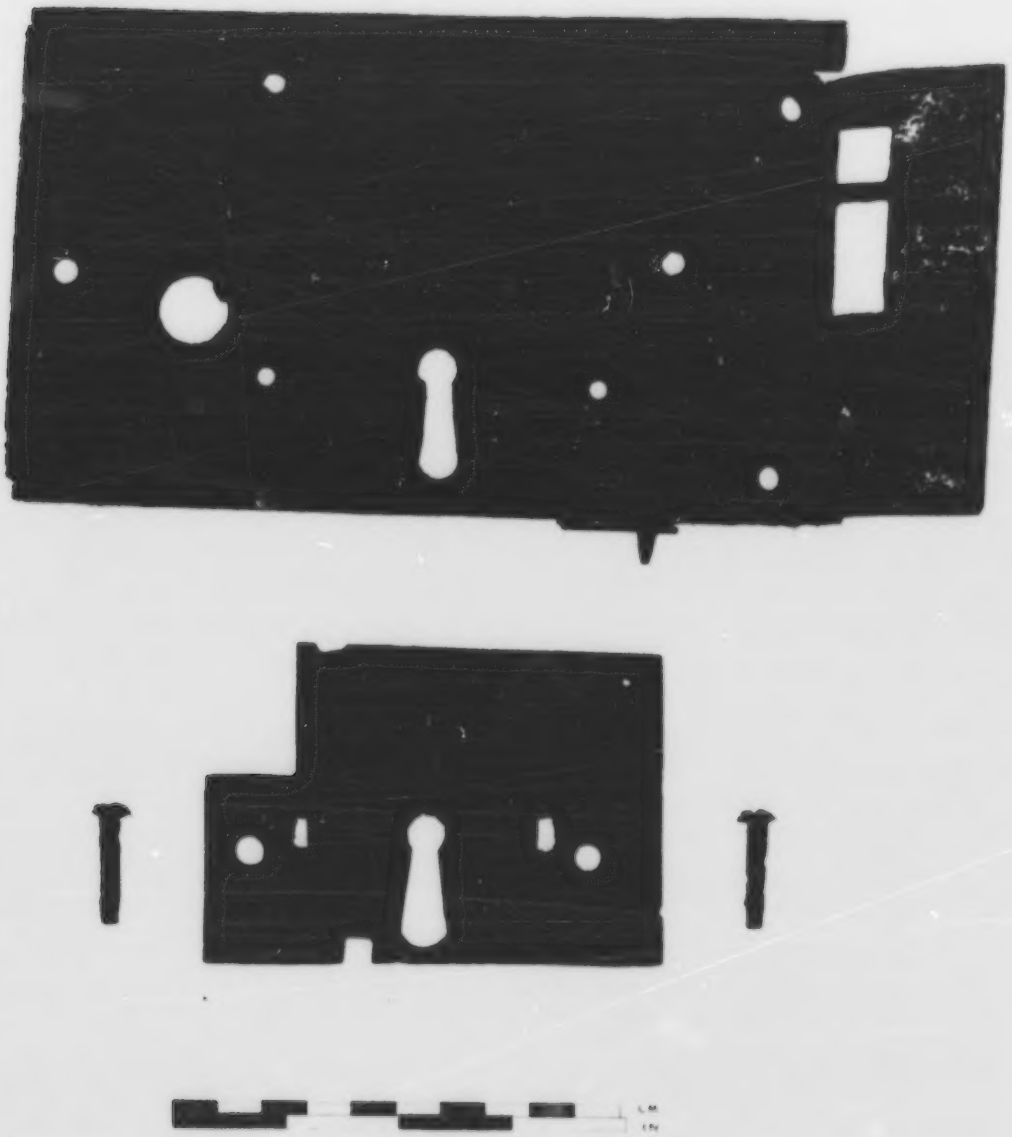


36 Rim lock, category 7; view of interior of case and disassembled mechanism, (9G4D3-132): a, case and part of mechanism; b, latch bolt; c, lock bolt; d, cover plate with bolts for attachment; e, spindle and follower. (Photo by R. Chan.)

37 Rim locks, category 7: a, incomplete lock (2E19K2-4); b, fragmentary lock (2E19Q16-26). (Photo by J. Jolin.)

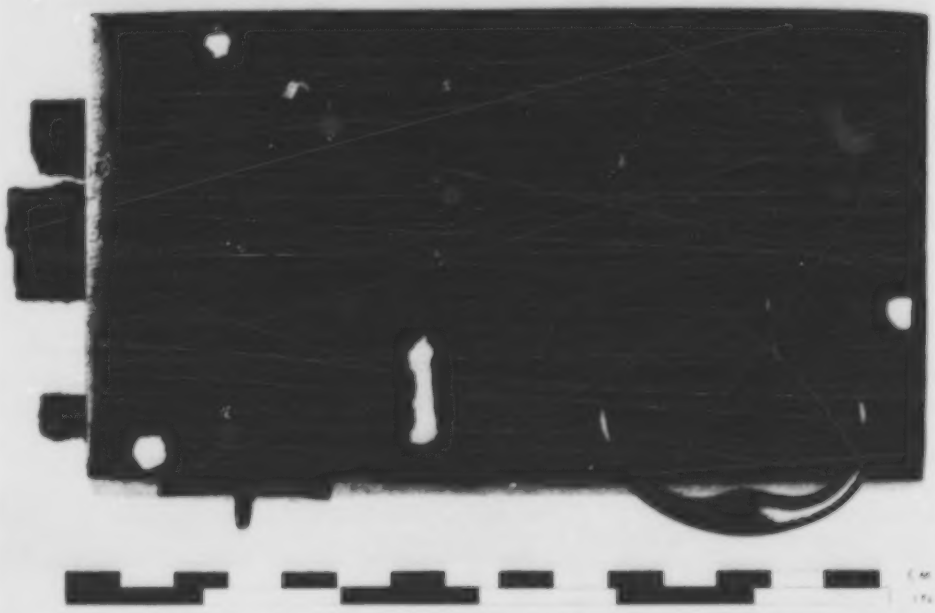


38 Rim lock, category 8; view of exterior of case (5G22D[B]8-9). (Photo by R. Chan.)



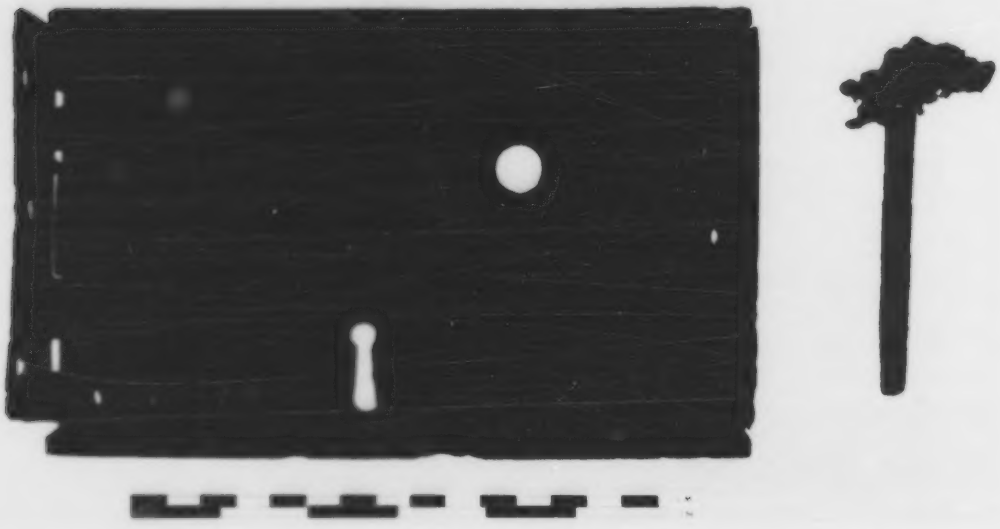
39 Rim lock, category 8; view of interior of case with incomplete mechanism, cover plate removed (5G22D[B]8-9). (Photo by R. Chan.)

40 Rim lock, category 8; view of interior of case with incomplete mechanism and repair on front plate (5G41J2-3). (Photo by R. Chan.)

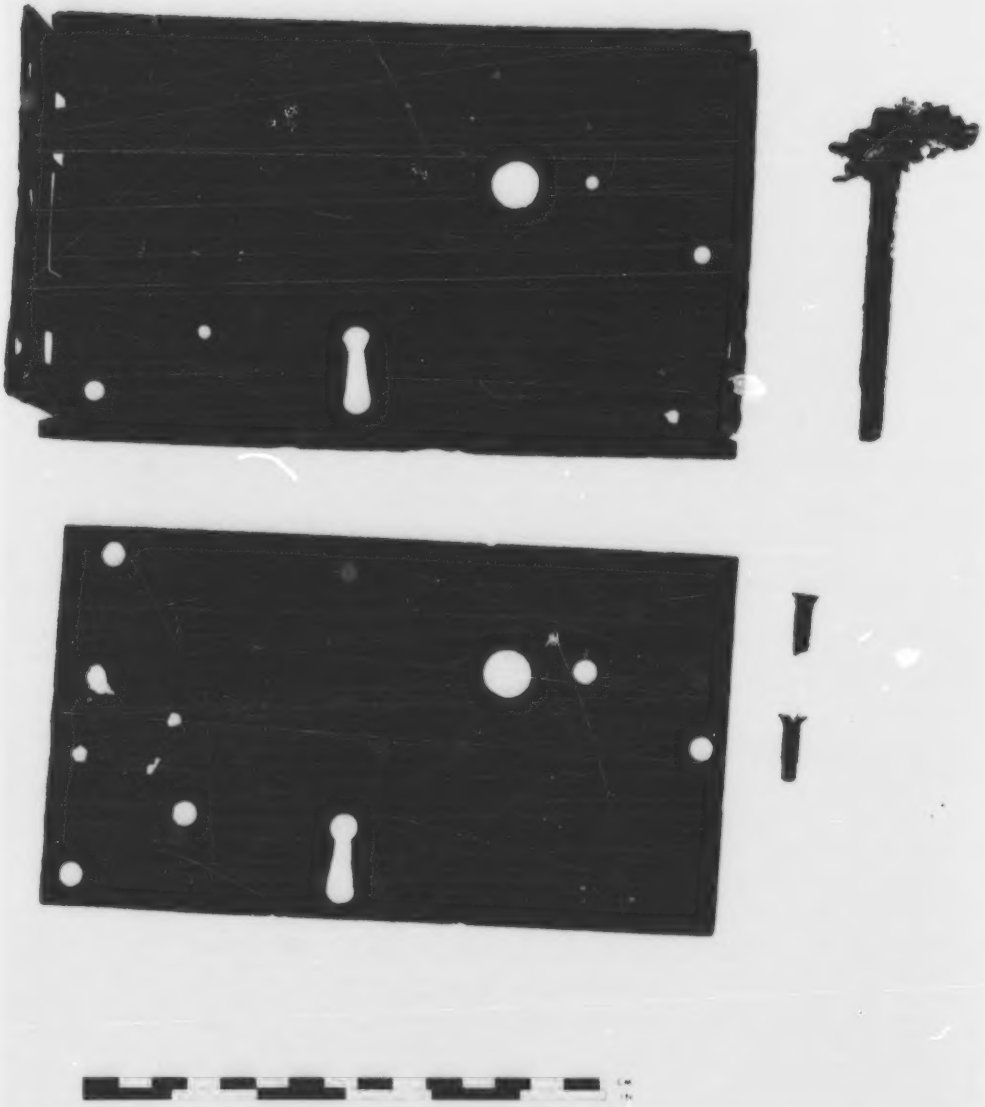


41 Rim lock, category 9; view of exterior of case (1K27Z10-2). (Photo by R. Chan.)

42 Rim lock, category 9; view of interior of case with assembled mechanism (1K27Z10-2). (Photo by R. Chan.)

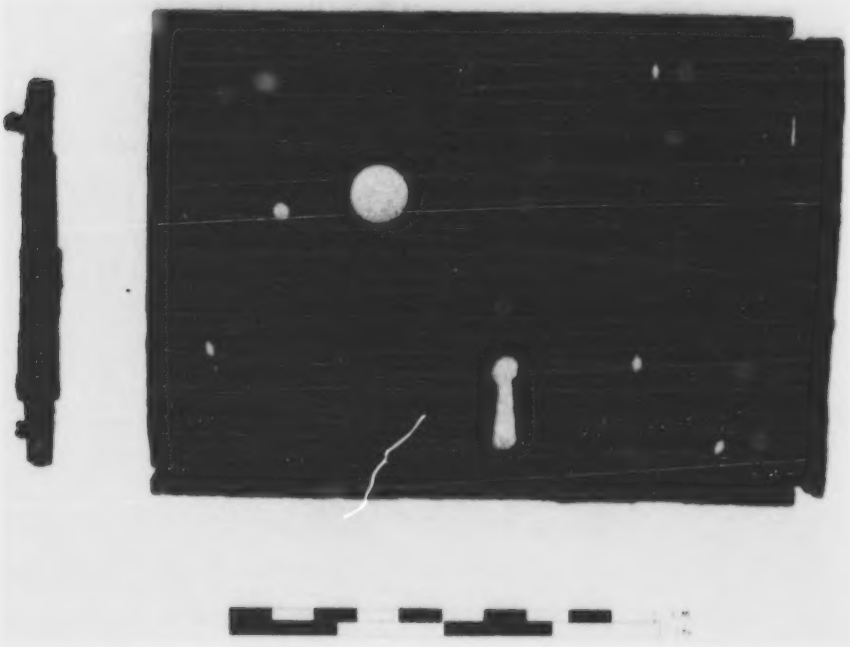


43 Rim lock, category 10; view of exterior of cover-plate side of case (5G34N4-6). (Photo by R. Chan.)

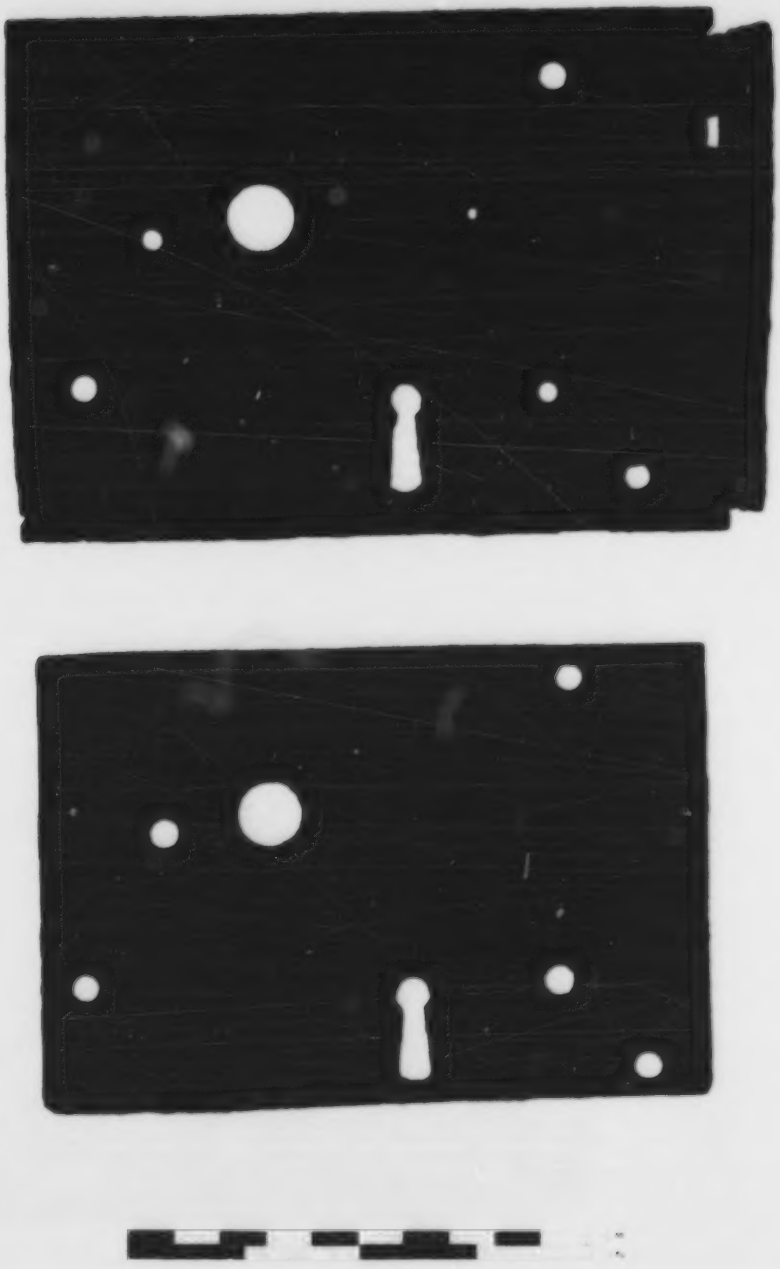


44 Rim lock, category 10; view of interior with assembled mechanism, cover plate removed (5G34N4-6). (Photo by R. Chan.)

45 Rim lock, category 11, and spindle, category 2; view of exterior of case and spindle (5G41N1-3). (Photo by R. Chan.)

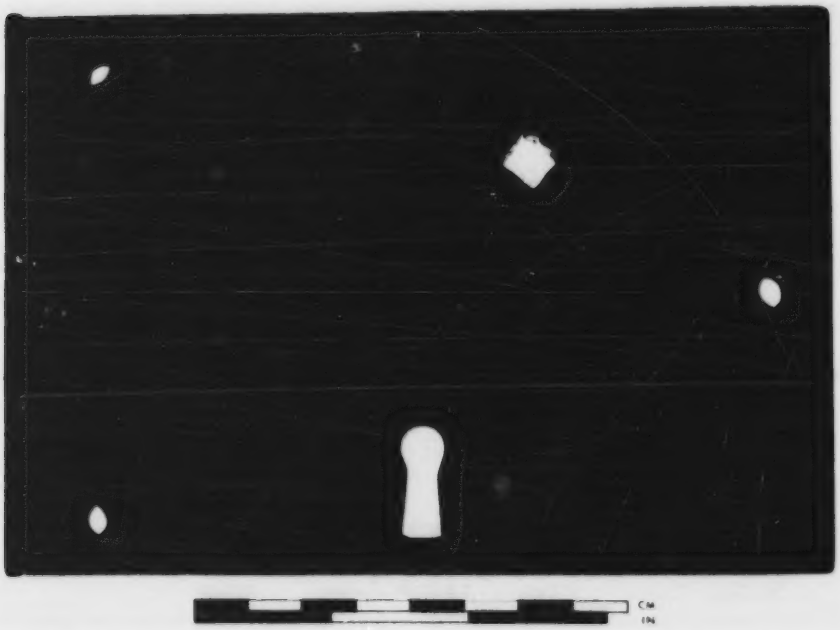


46 Rim lock, category 11; view of cover-plate side of case and spindle (5G41N1-3). (Photo by R. Chan.)

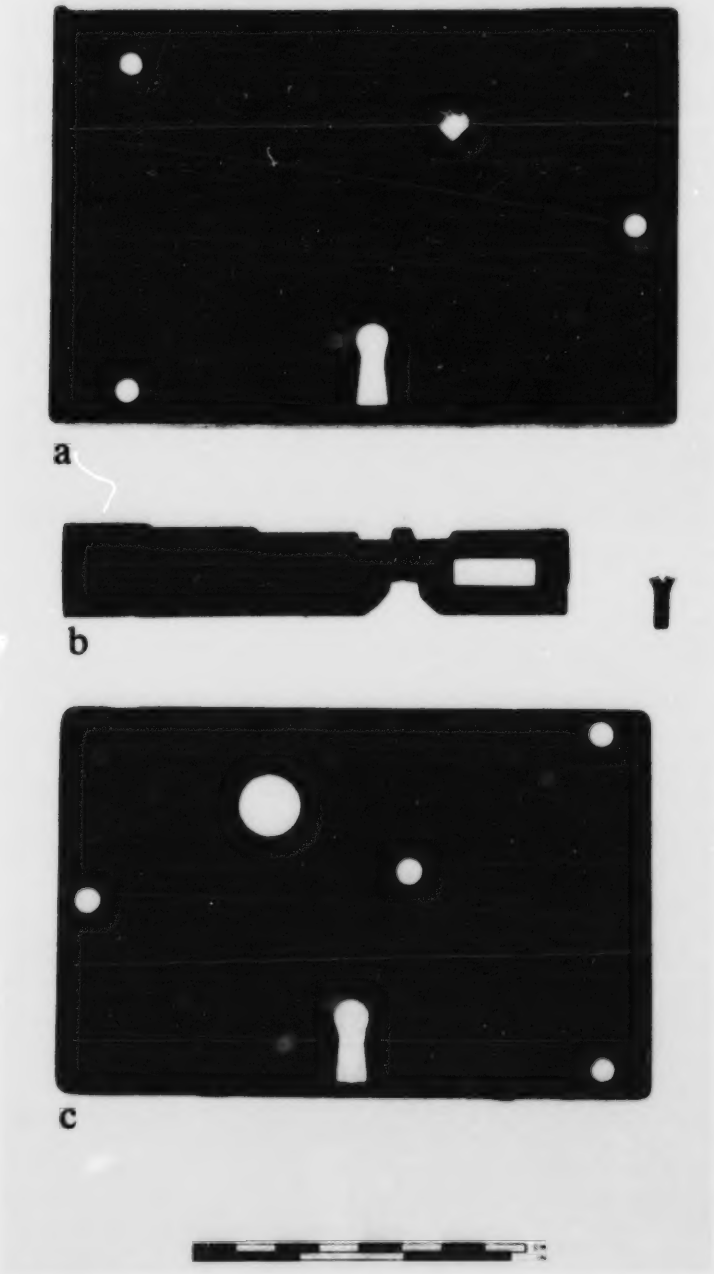


47 Rim lock, category 11; view of interior of case with assembled mechanism (5G41N1-3). (Photo by R. Chan.)

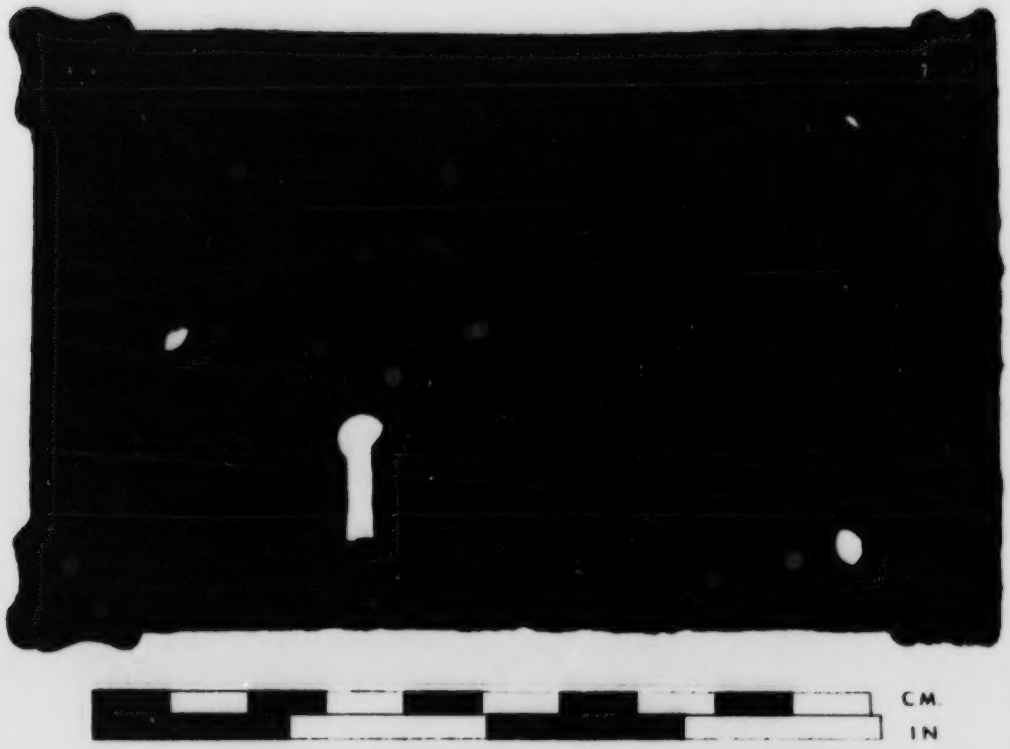
48 Rim lock, category 12; view of exterior of case (13G1Z1-128). (Photo by R. Chan.)



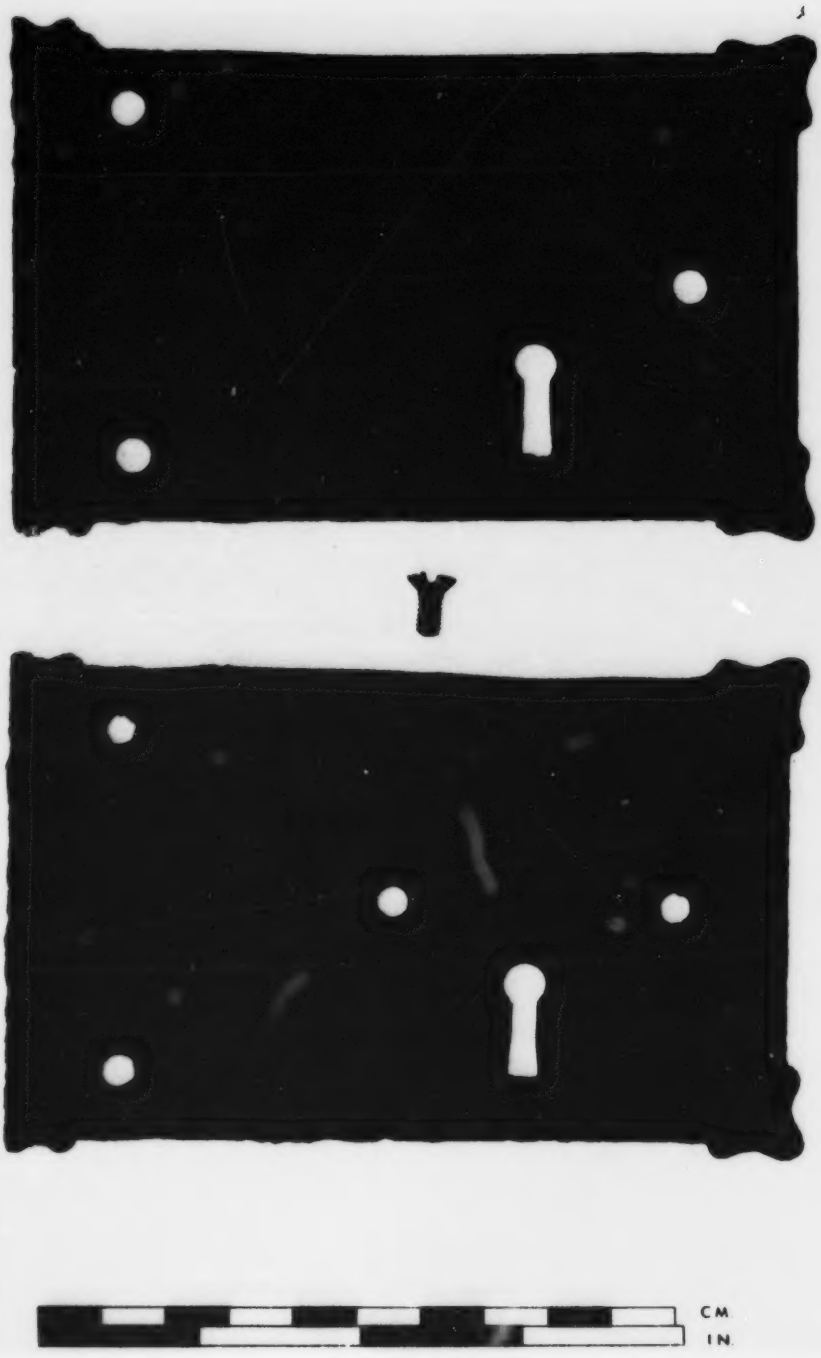
49 Rim lock, category 12; view of cover-plate side of case (13G1Z1-128). (Photo by R. Chan.)



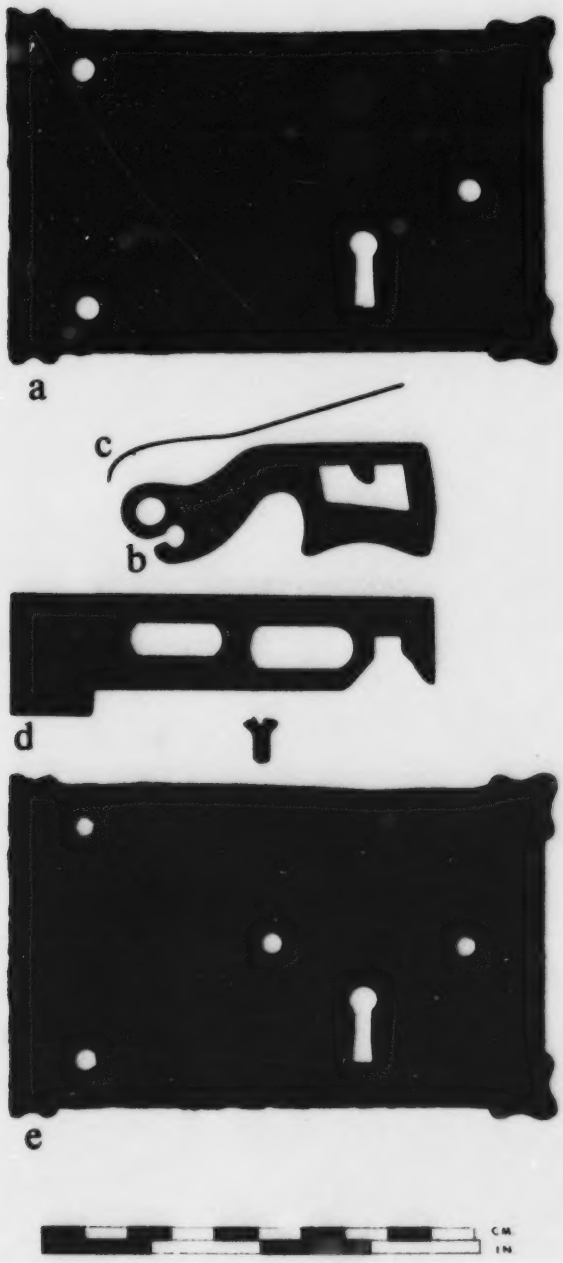
50 Rim lock, category 12; view of interior of case with lock bolt removed (13G1Z1-128): a, case with part of mechanism; b, lock bolt; c, cover plate, inside surface. (Photo by R. Chan.)



51 Rim lock, category 13; view of exterior of case (1K41A6-3). (Photo by R. Chan.)

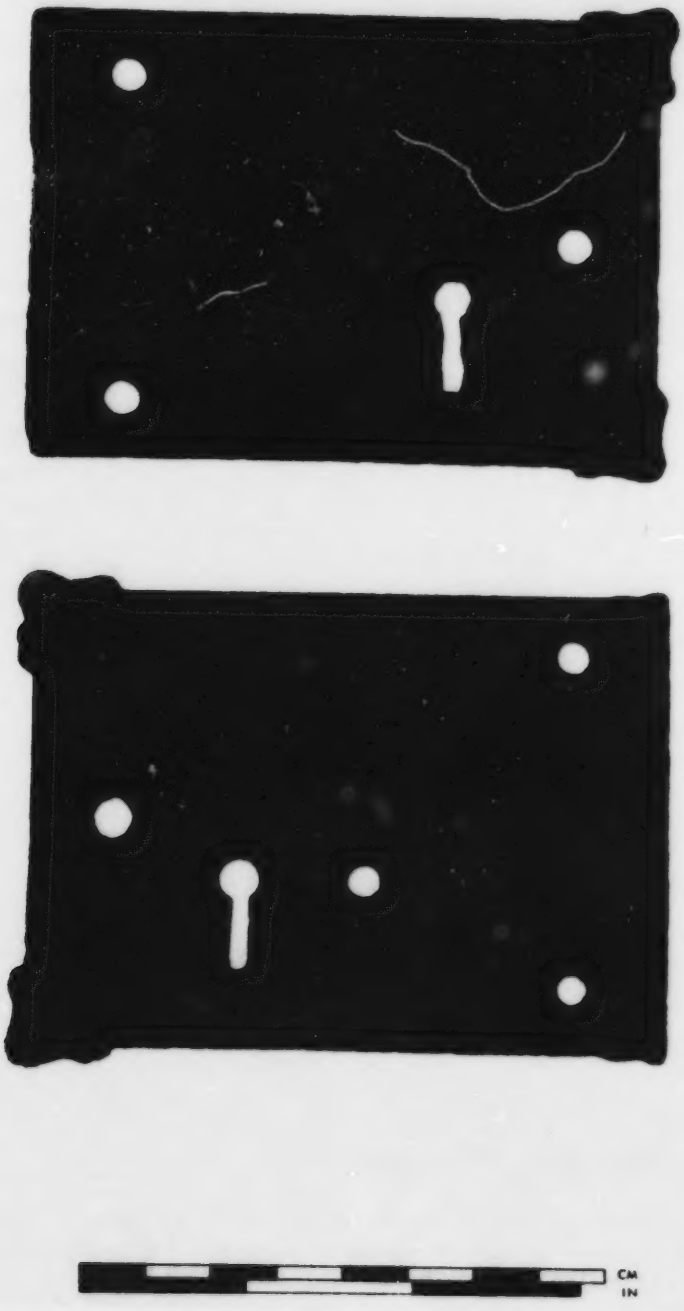


52 Rim lock, category 13; view of interior of case with assembled mechanism (1K41A6-3). (Photo by R. Chan.)

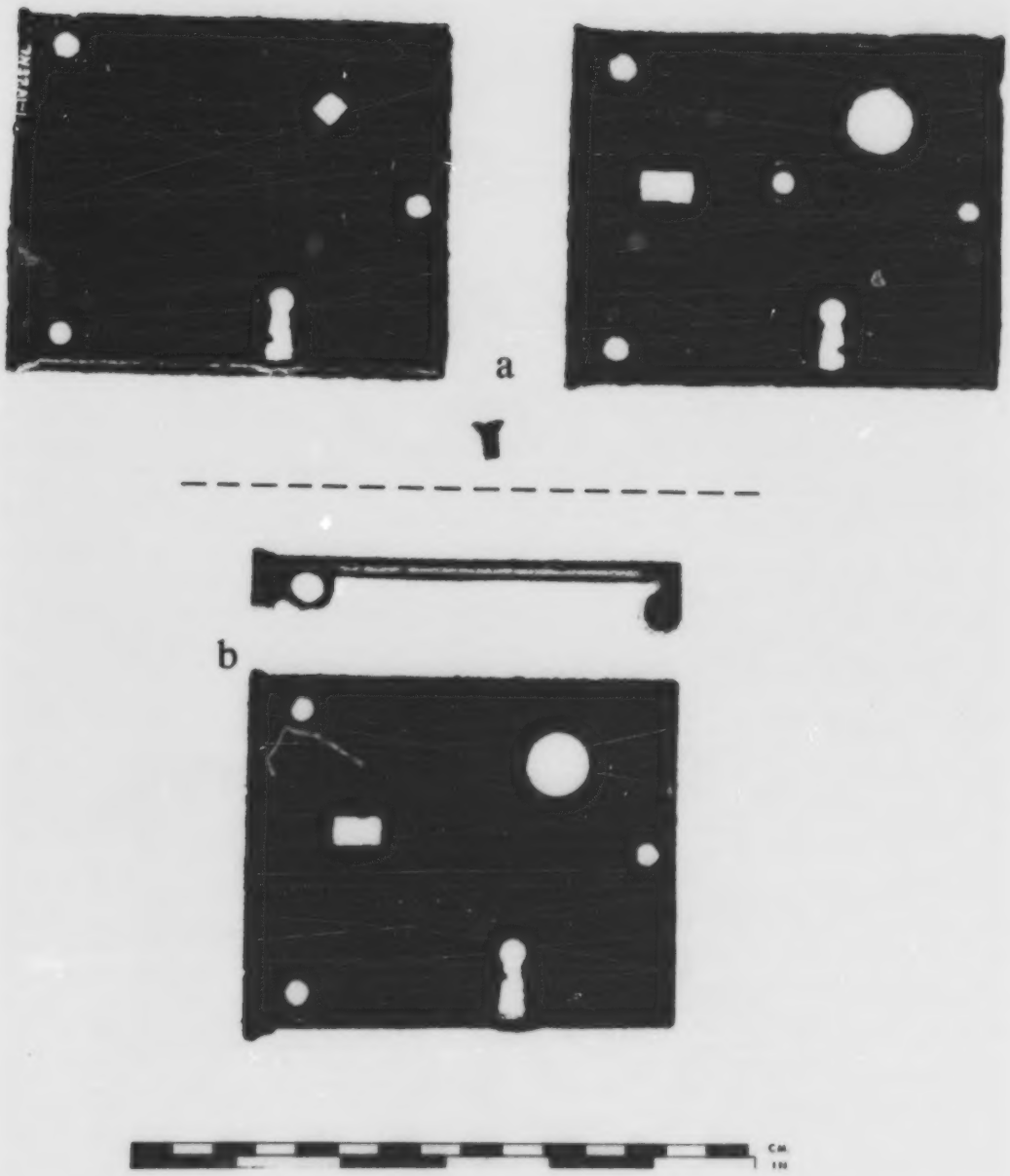


53 Rim lock, category 13; view of interior of case with disassembled mechanism (1KH1A6-6): a, case; b, tumbler; c, tumbler spring; d, lock bolt; e, cover. (Photo by R. Chan.)

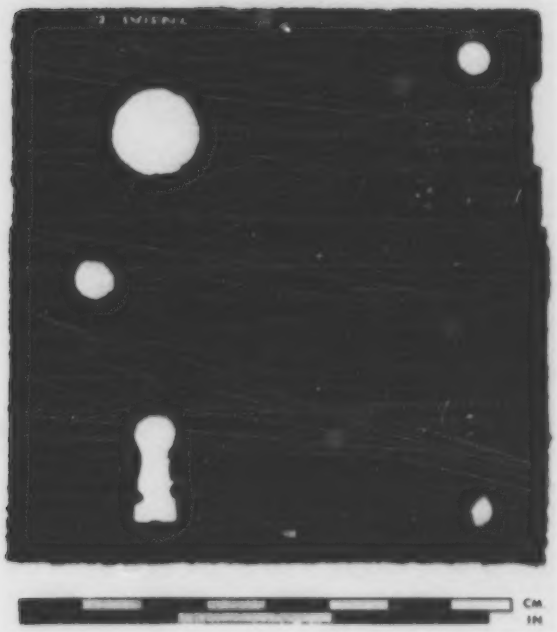
54 Rim lock, category 14; view of exterior of case (10H1A1-25). (Photo by R. Chan.)



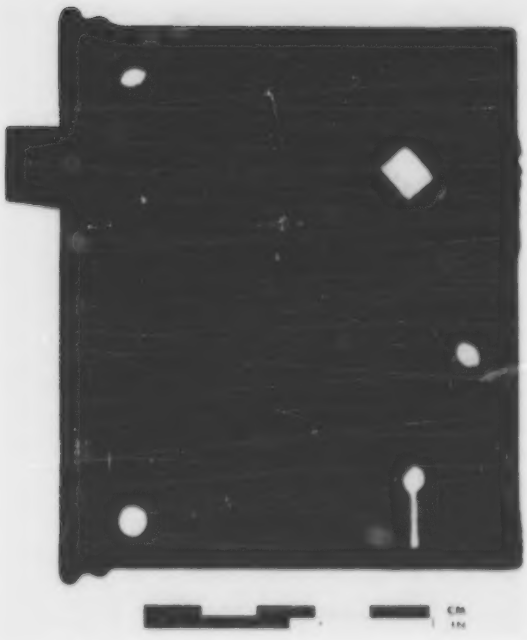
55 Rim lock, category 14; view of interior of case with assembled mechanism (incomplete) (10H1A1-25). (Photo by R. Chan.)



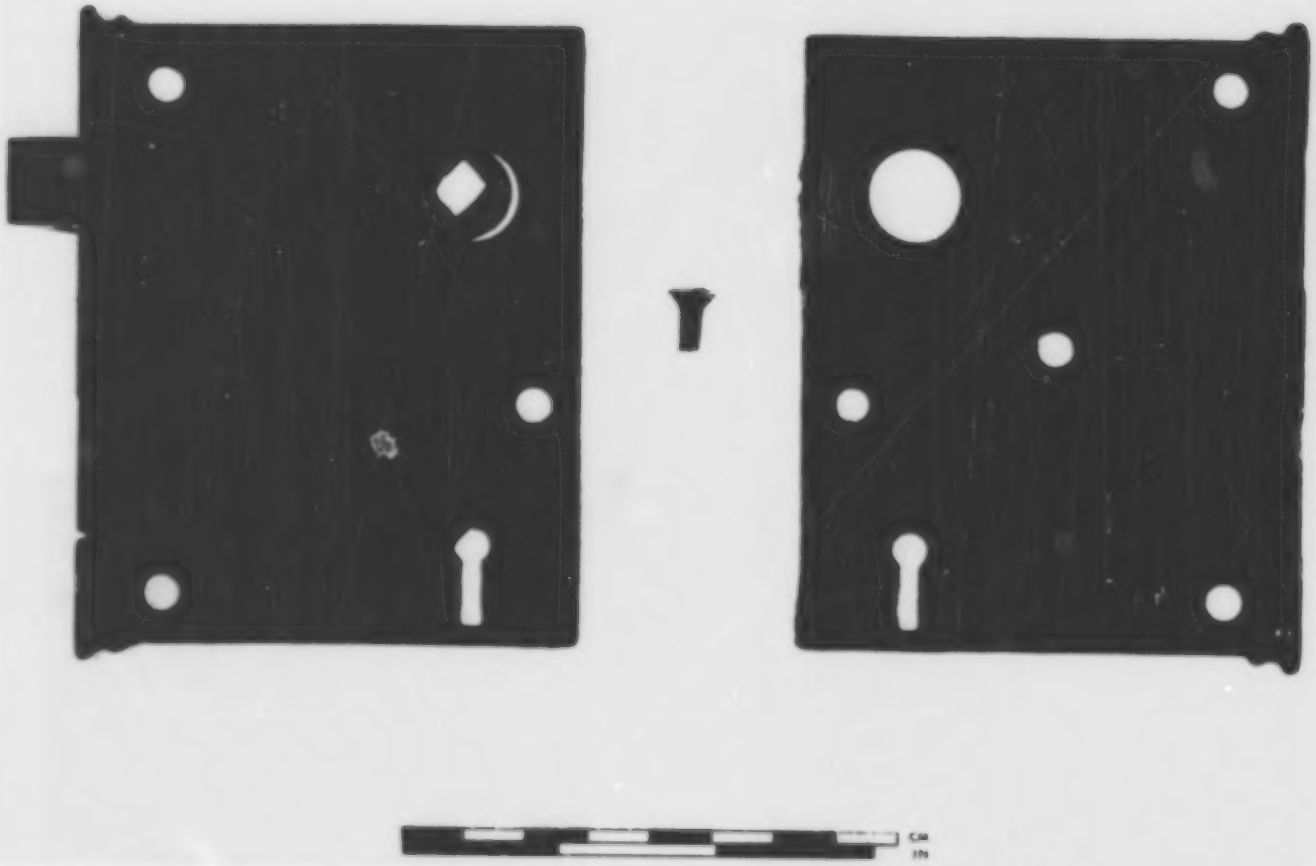
56 Rim lock, category 15: a, view of interior of case with incomplete assembled mechanism (7N32A1-1); b, interior view of case with detached top plate (7N31J3-4). (Photo by R. Chan.)



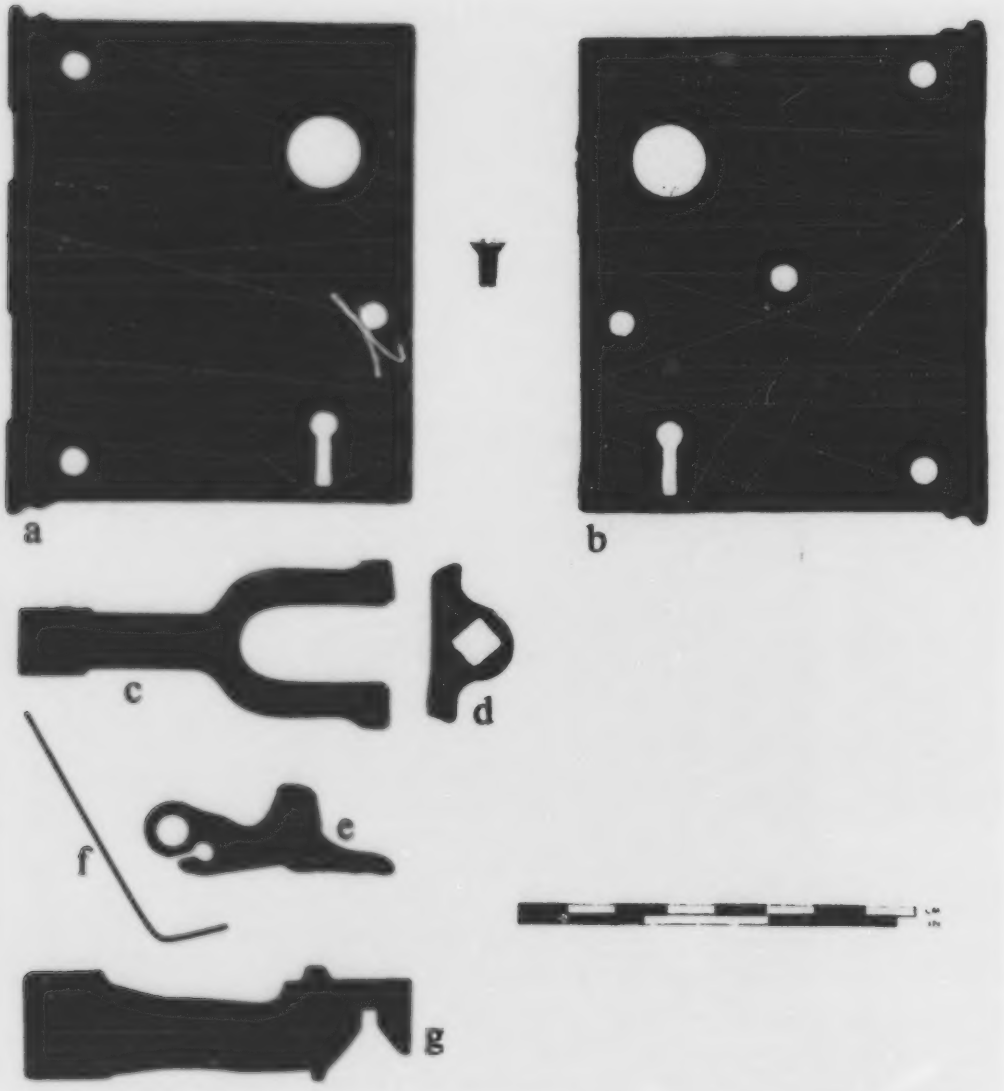
57 Rim lock, category 16; view of exterior of incomplete case (7N31A1-2). (Photo by R. Chan.)



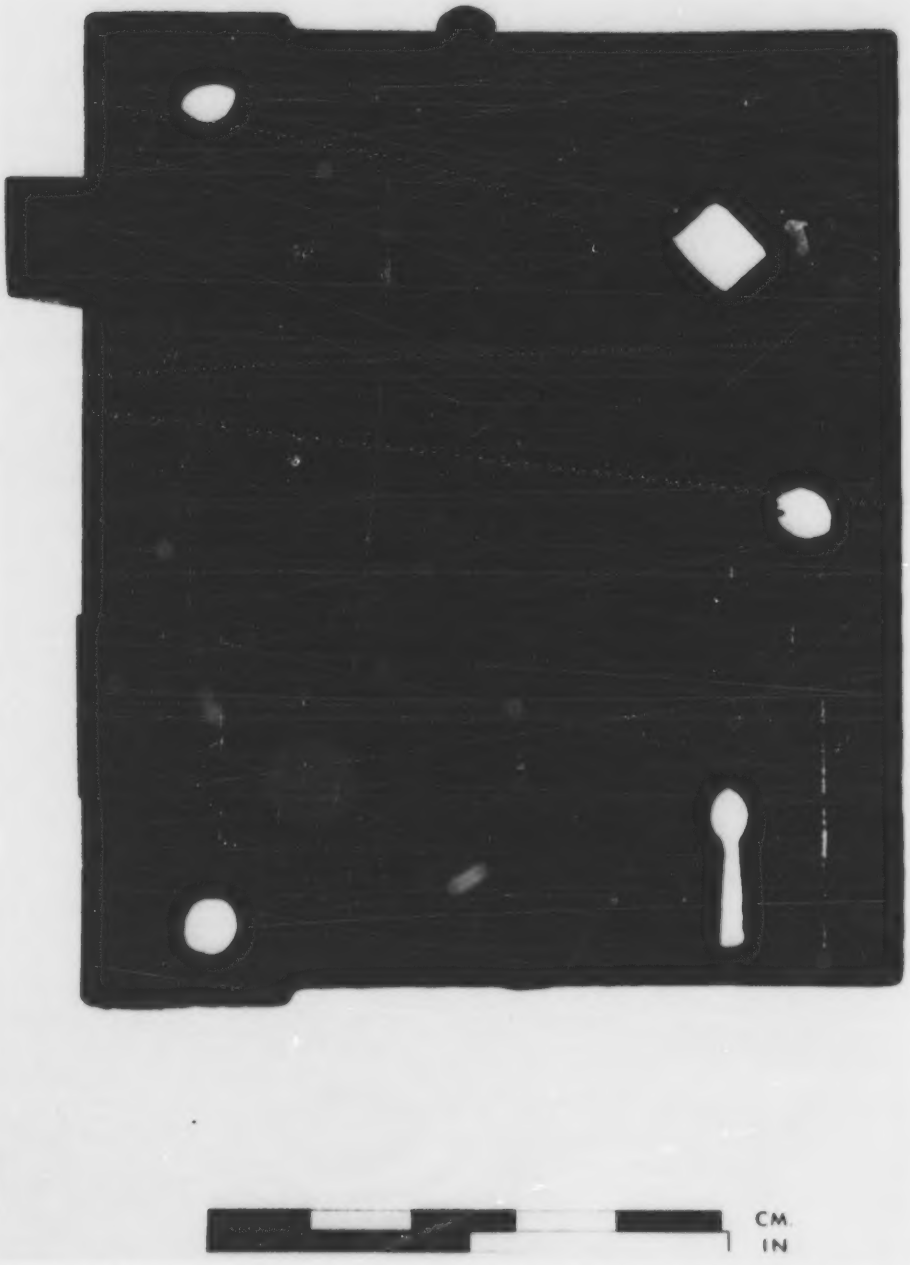
58 Rim lock, category 17; view of exterior of case (13G1M1-9). (Photo by R. Chan.)



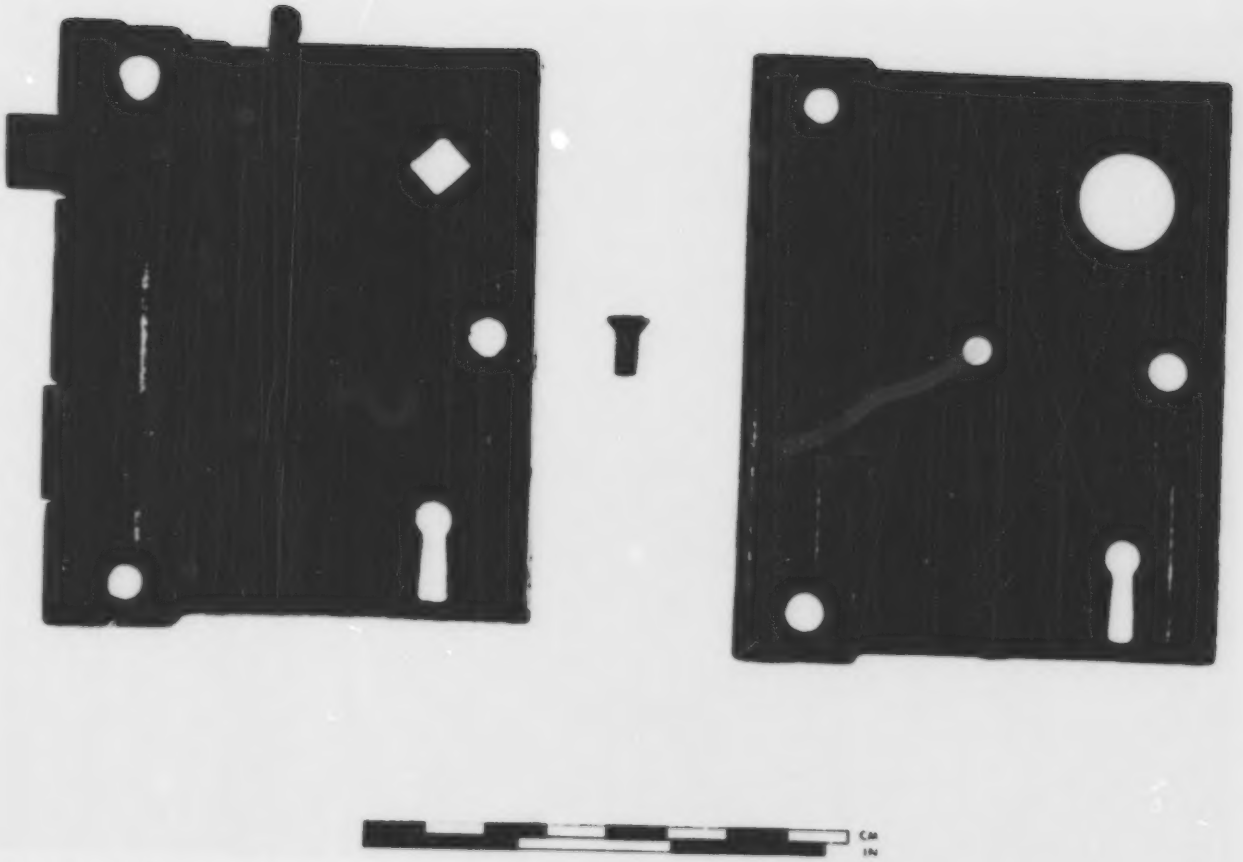
59 Rim lock, category 17; view of interior of case with assembled mechanism (13G1M1-9). (Photo by R. Chan.)



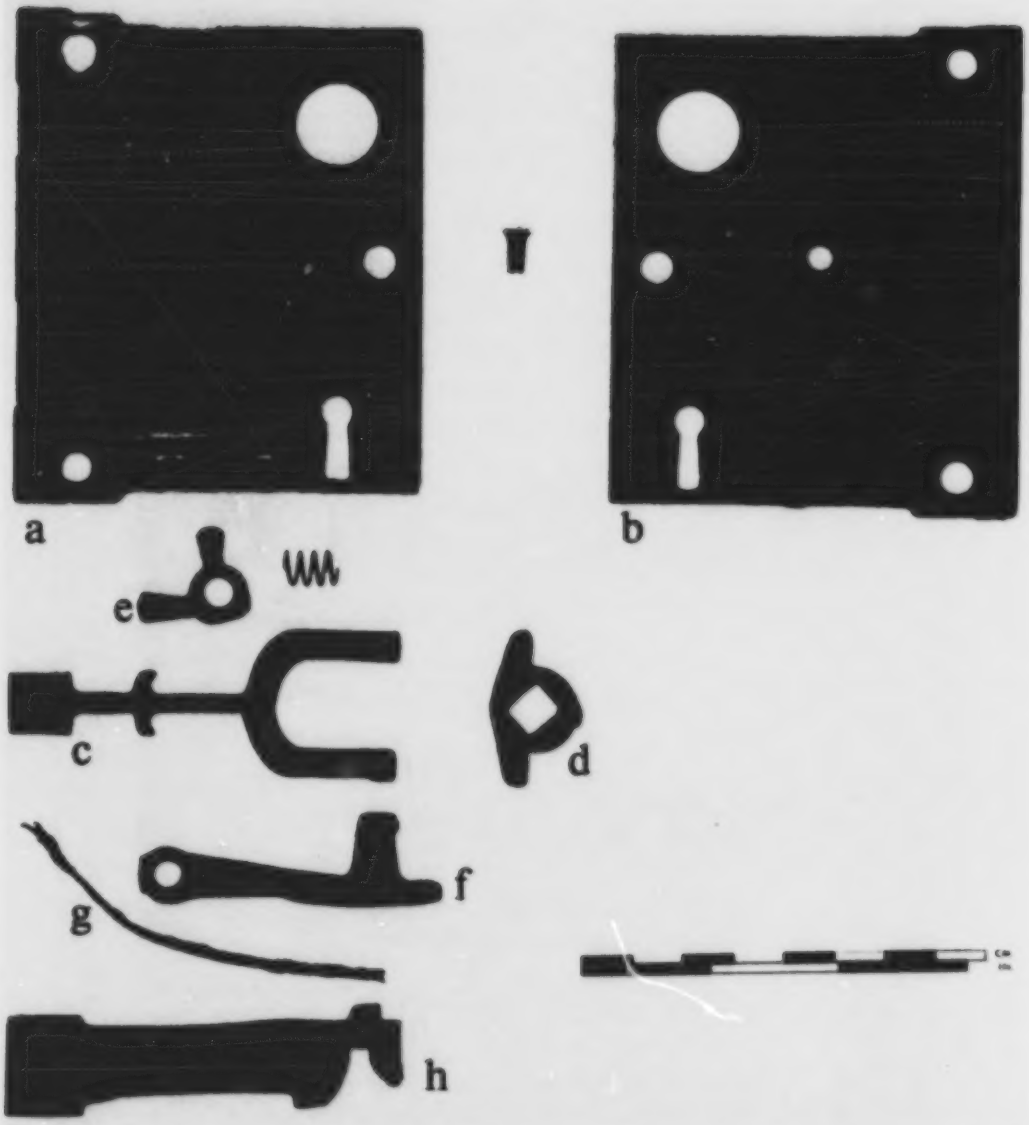
60 Rim lock, category 17; view of interior of case and disassembled mechanism (13G1M1-9): a, case; b, cover; c, latch bolt; d, follower; e, tumbler; f, tumbler spring; g, lock bolt. (Photo by R. Chan.)



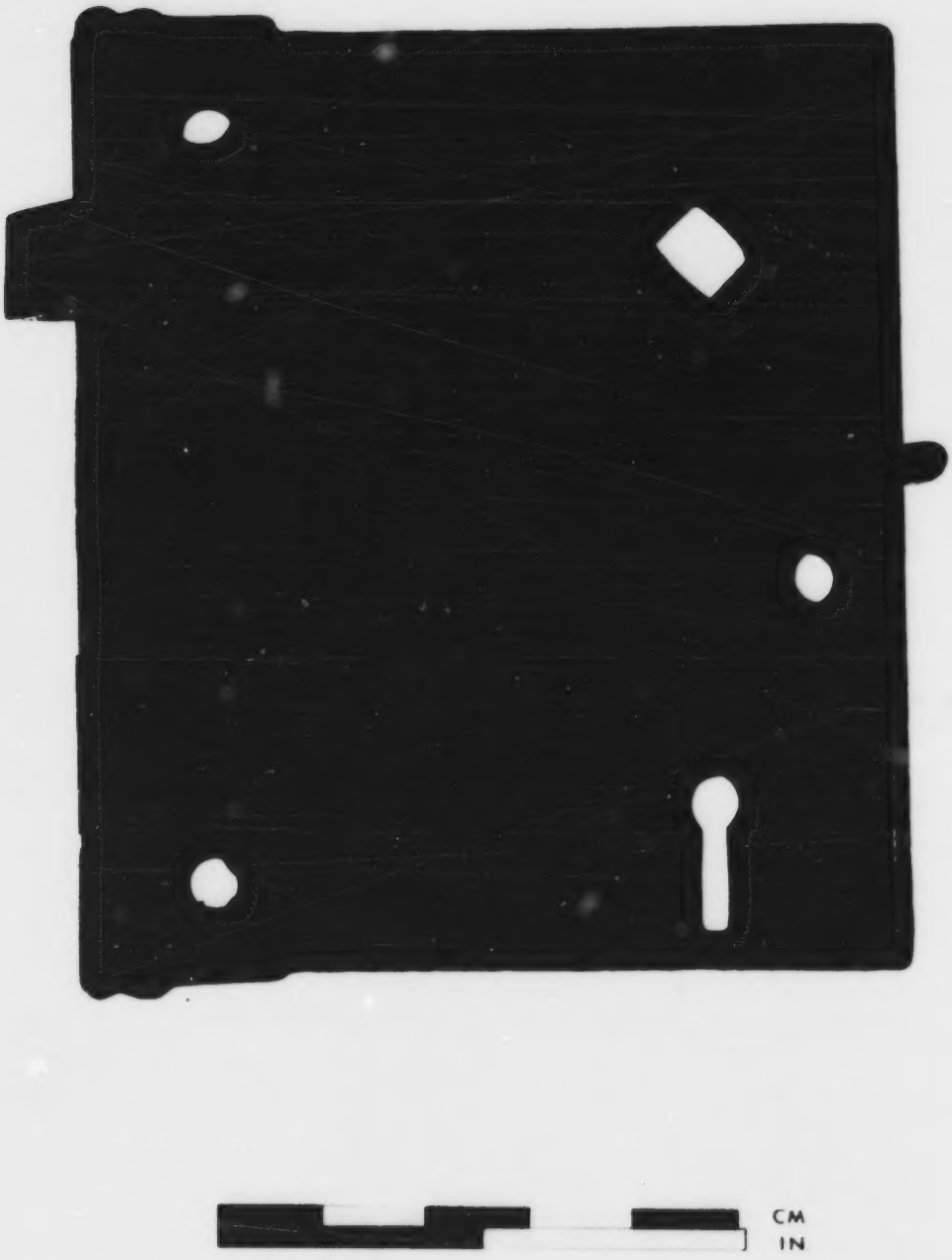
61 Rim lock, category 18; view of exterior of case (13G1Z1-127). (Photo by R. Chan.)



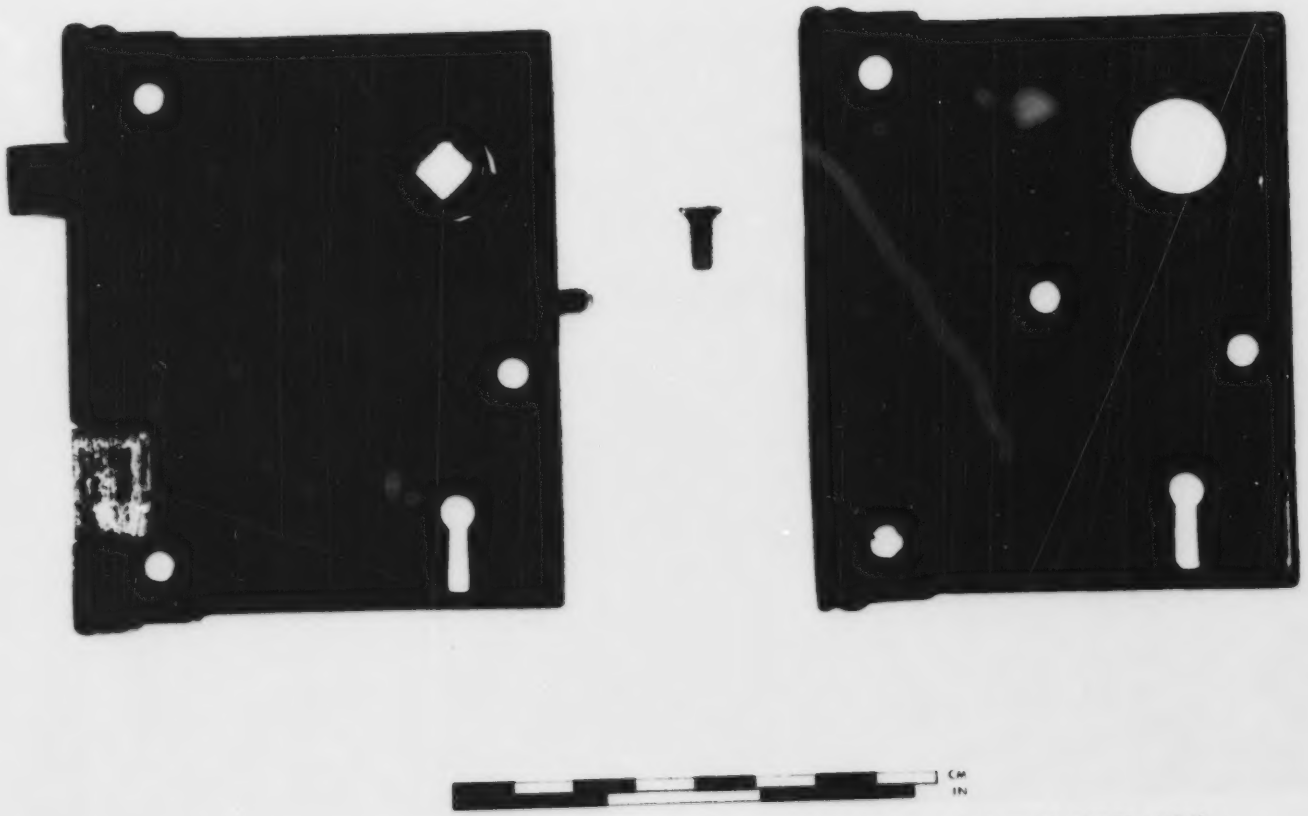
62 Rim lock, category 18; view of interior of case with assembled mechanism (13G1Z1-127). (Photo by R. Chan.)



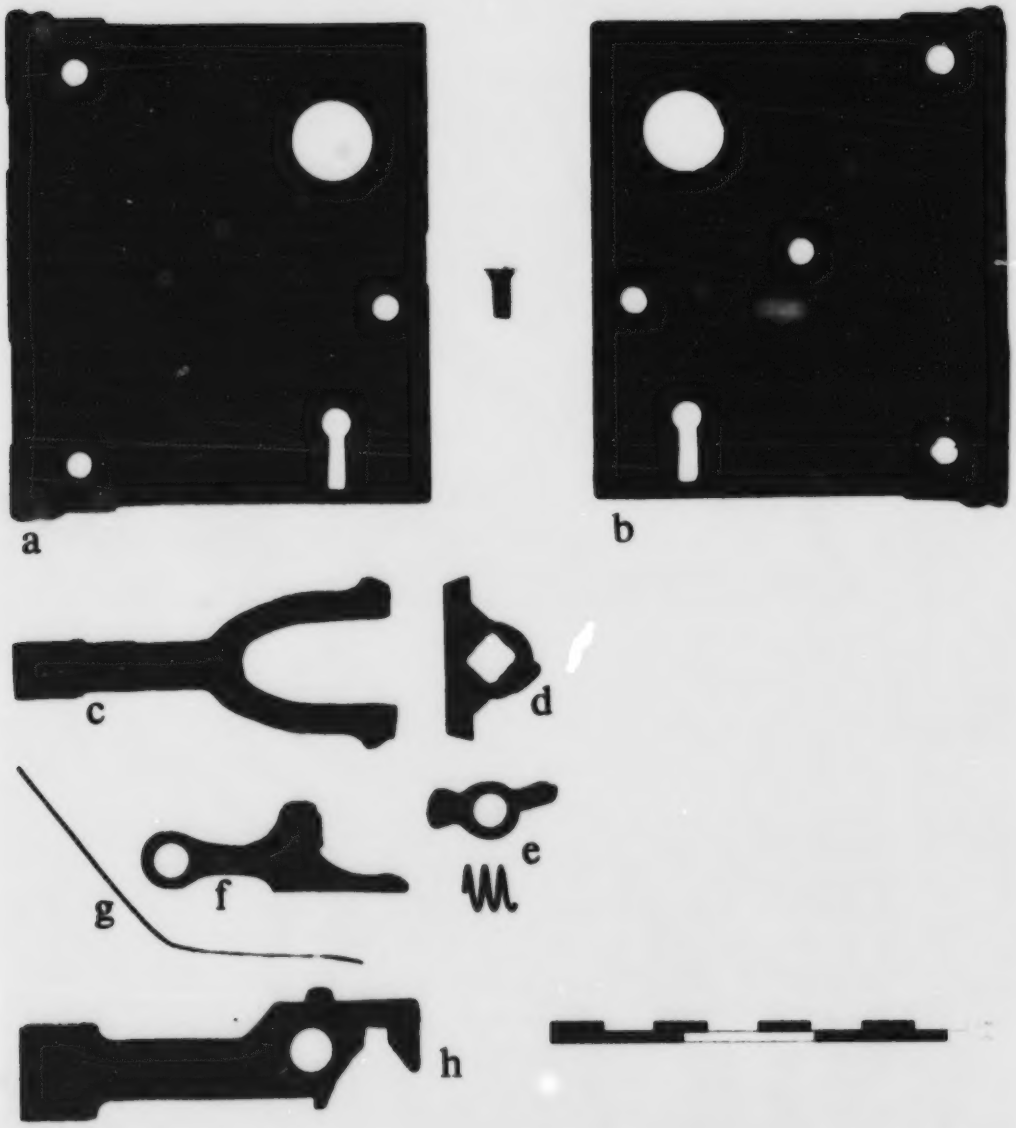
63 Rim lock, category 18; view of interior of case and disassembled mechanism (13G1Z1-127): a, case; b, cover; c, latch bolt; d, follower; e, latch-bolt catch and spring; f, tumbler; g, paper-covered tumbler spring; h, lock bolt. (Photo by R. Chan.)



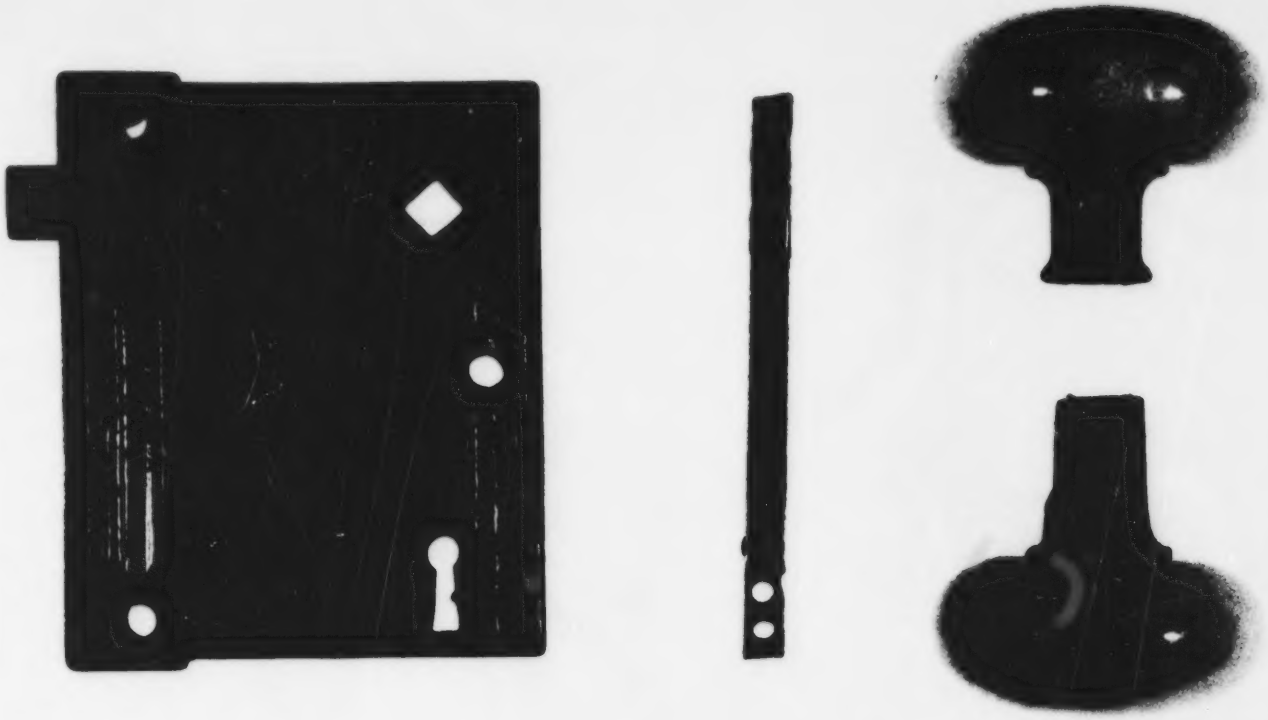
64 Rim lock, category 19; view of exterior of case (13G1Z1-126). (Photo by R. Chan.)



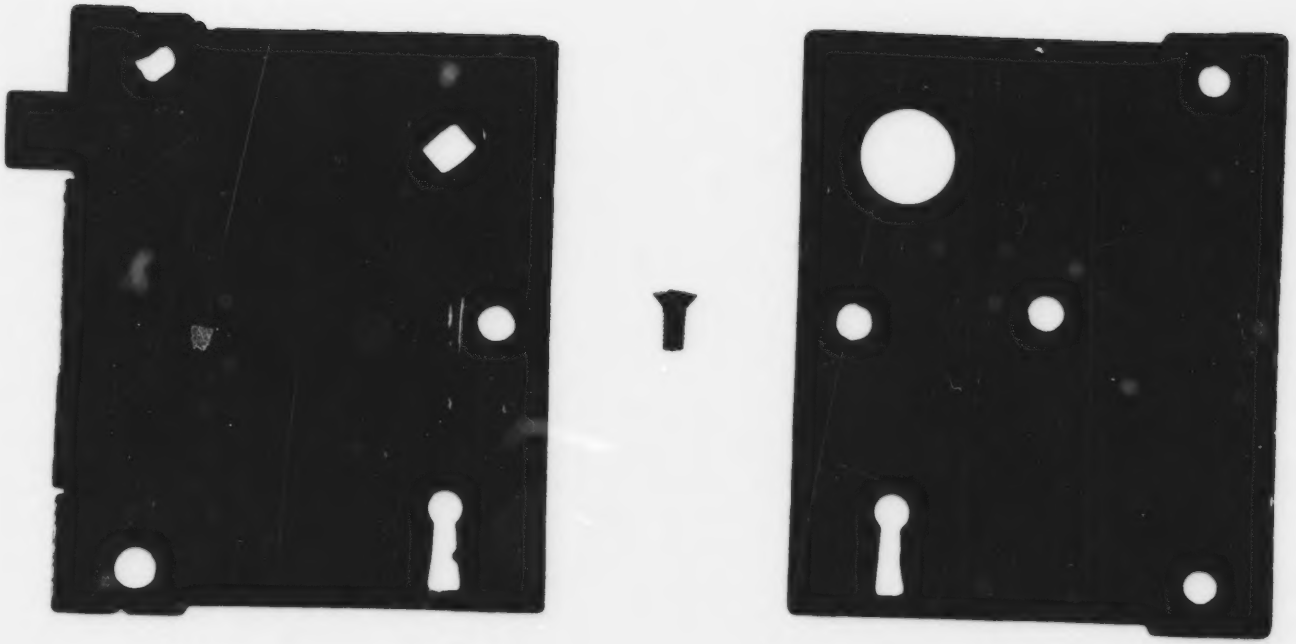
65 Rim lock, category 19; view of interior of case with assembled mechanism (13G1Z1-126). (Photo by R. Chan.)



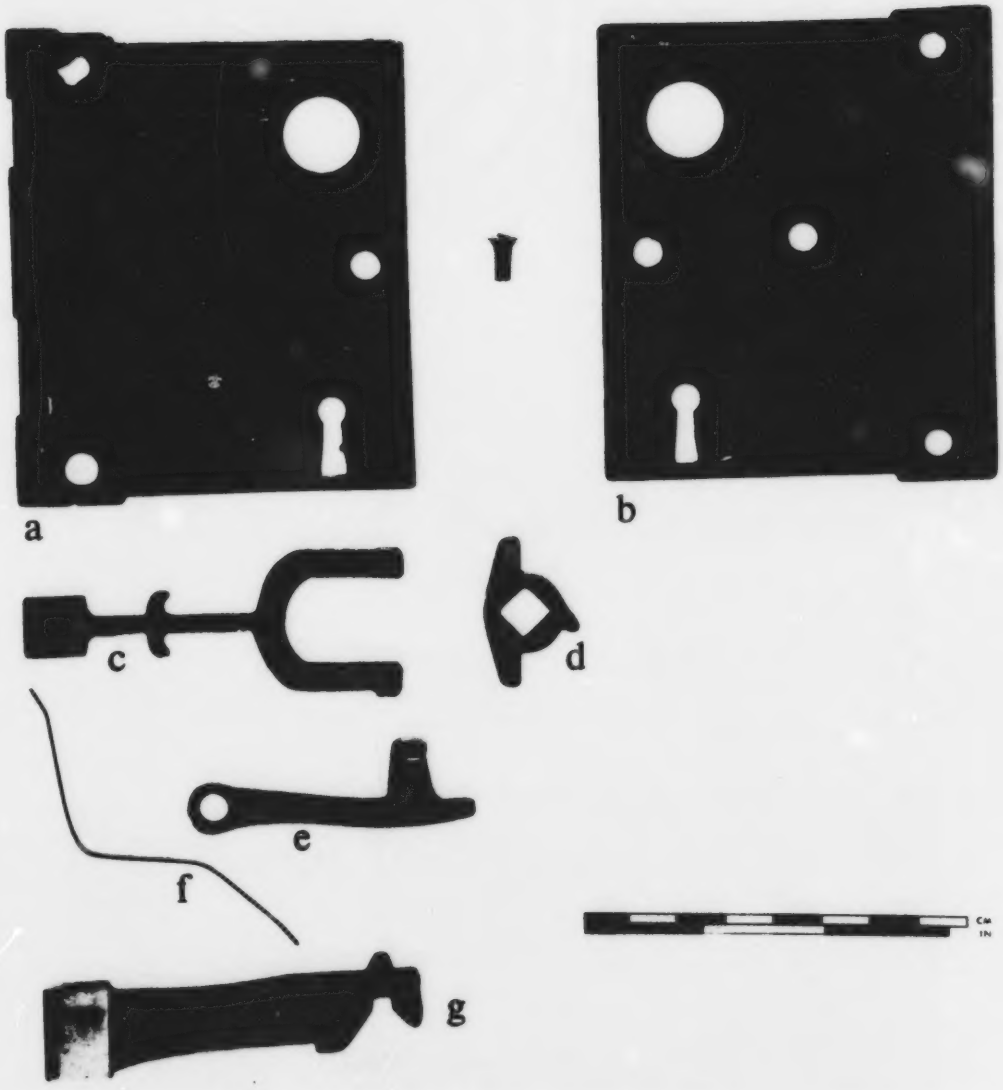
66 Rim lock, category 19; view of interior of case and disassembled mechanism (13G1Z1-126): a, case; b, cover; c, latch bolt; d, follower; e, latch-bolt catch and spring; f, tumbler; g, tumbler spring; h, lock bolt. (Photo by R. Chan.)



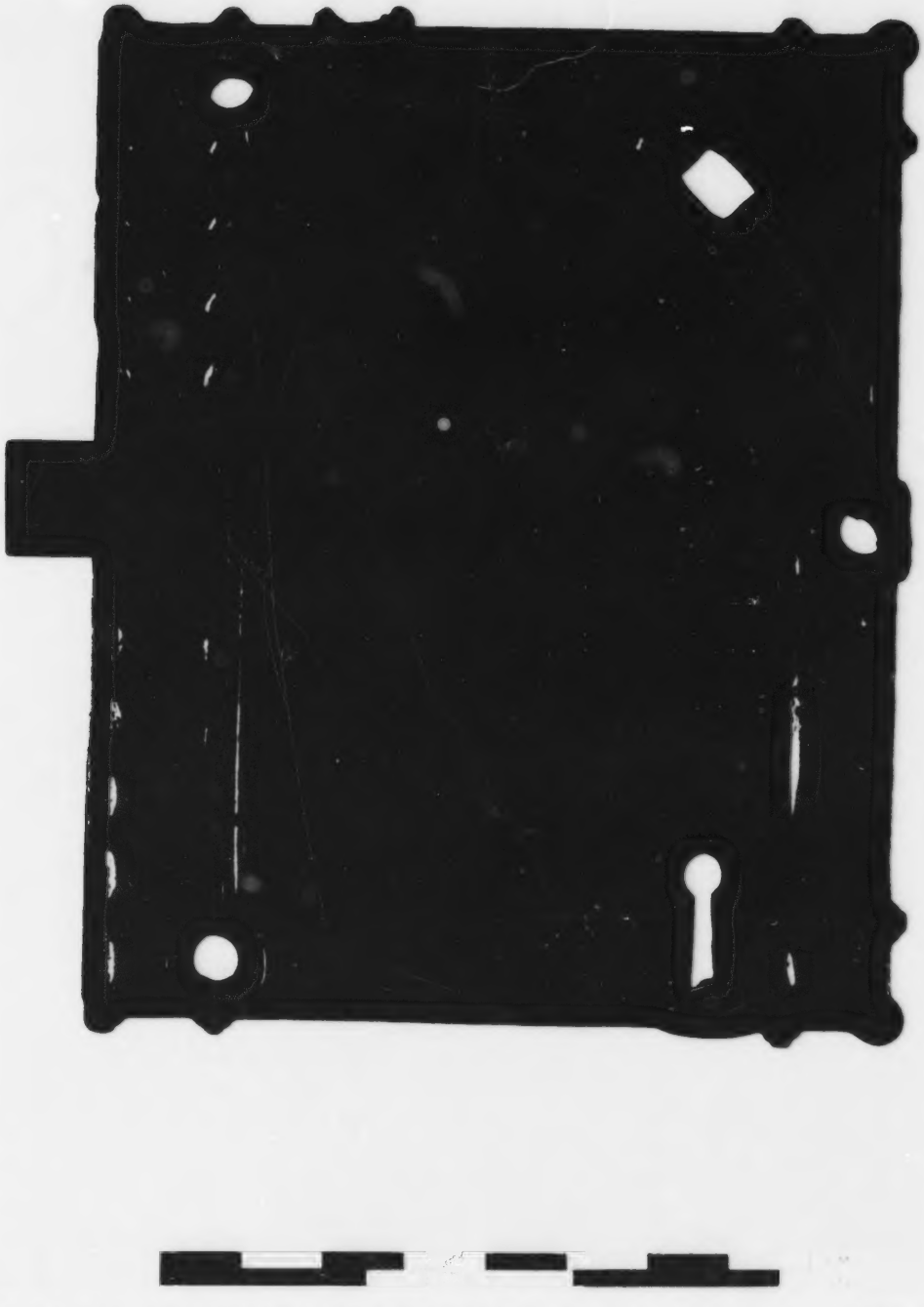
67 Rim lock, category 20; view of exterior of case, spindle and knobs (13G1Z1-150). (Photo by R. Chan.)



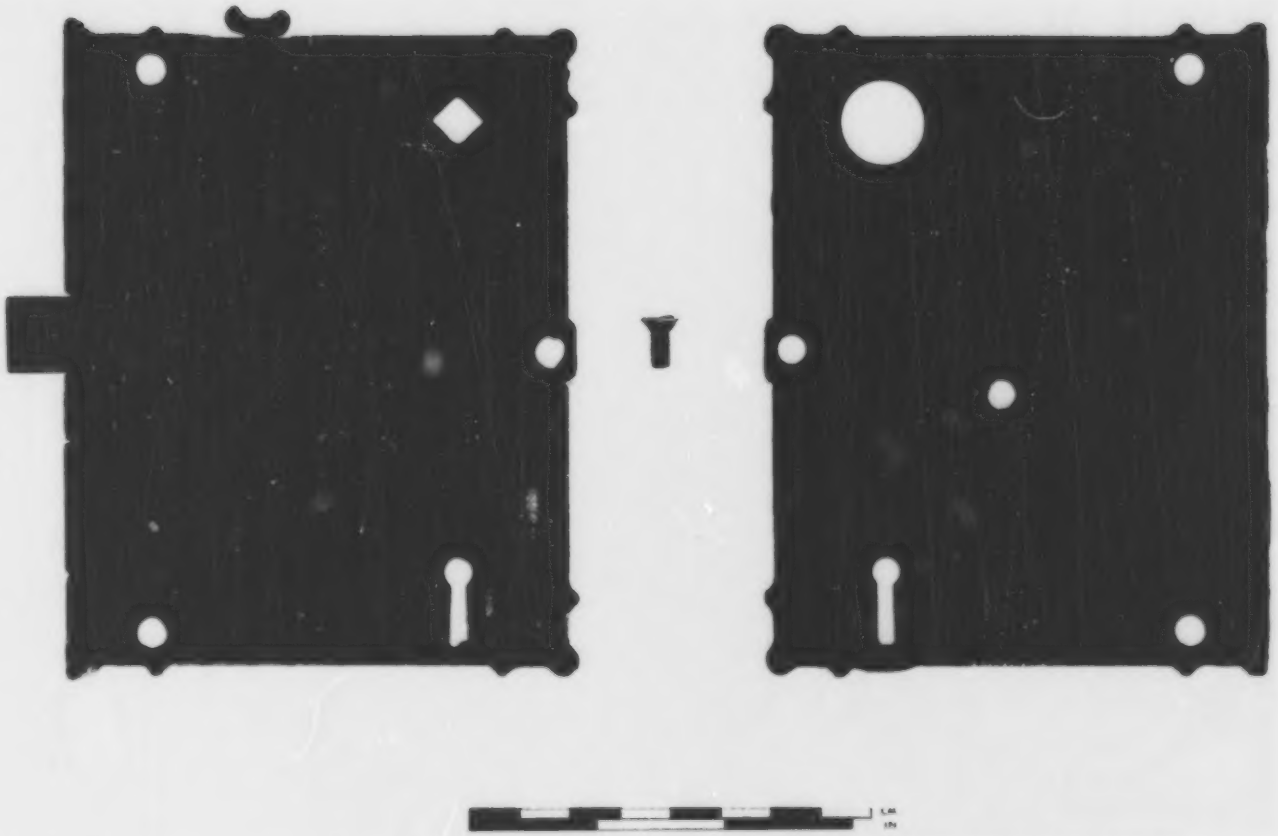
68 Rim lock, category 20; view of interior of case with assembled mechanism (13G1Z1-150). (Photo by R. Chan.)



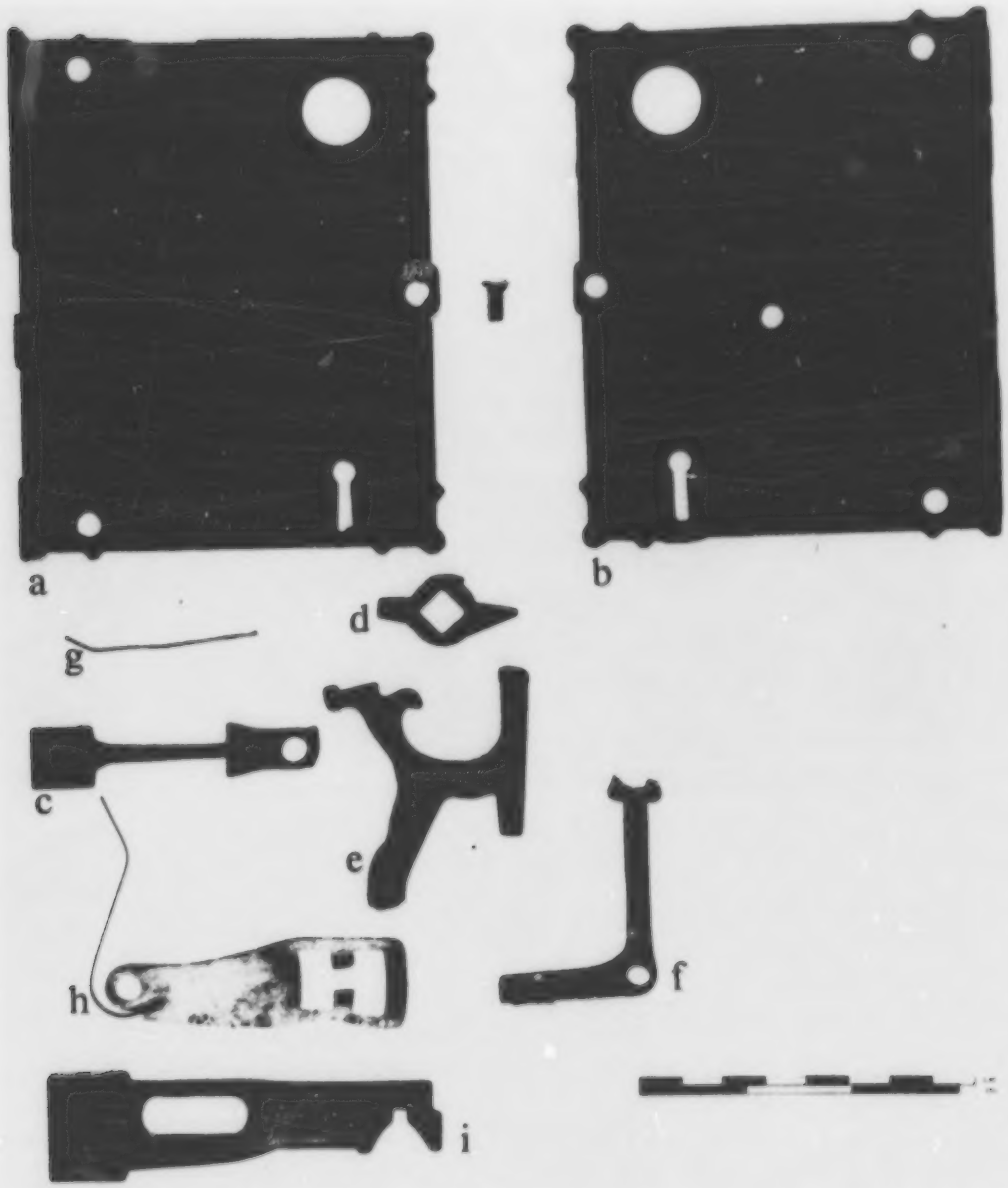
69 Rim lock, category 20; view of interior of case and disassembled mechanism (13G1M1-150): a, case; b, cover; c, latch bolt; d, follower; e, tumbler; f, tumbler spring; g, lock bolt. (Photo by R. Chan.)



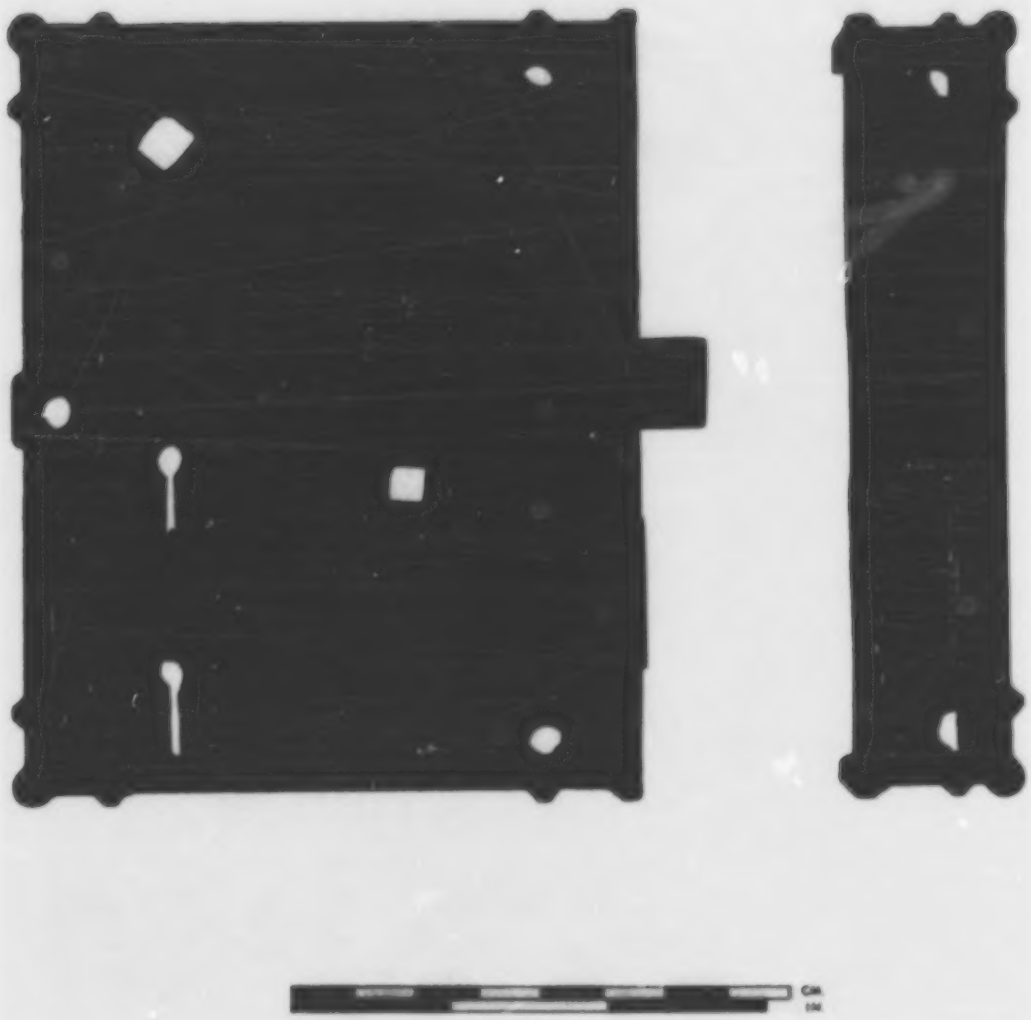
70 Rim lock, category 21; view of exterior of case (13G1L1-3). (Photo by R. Chan.)



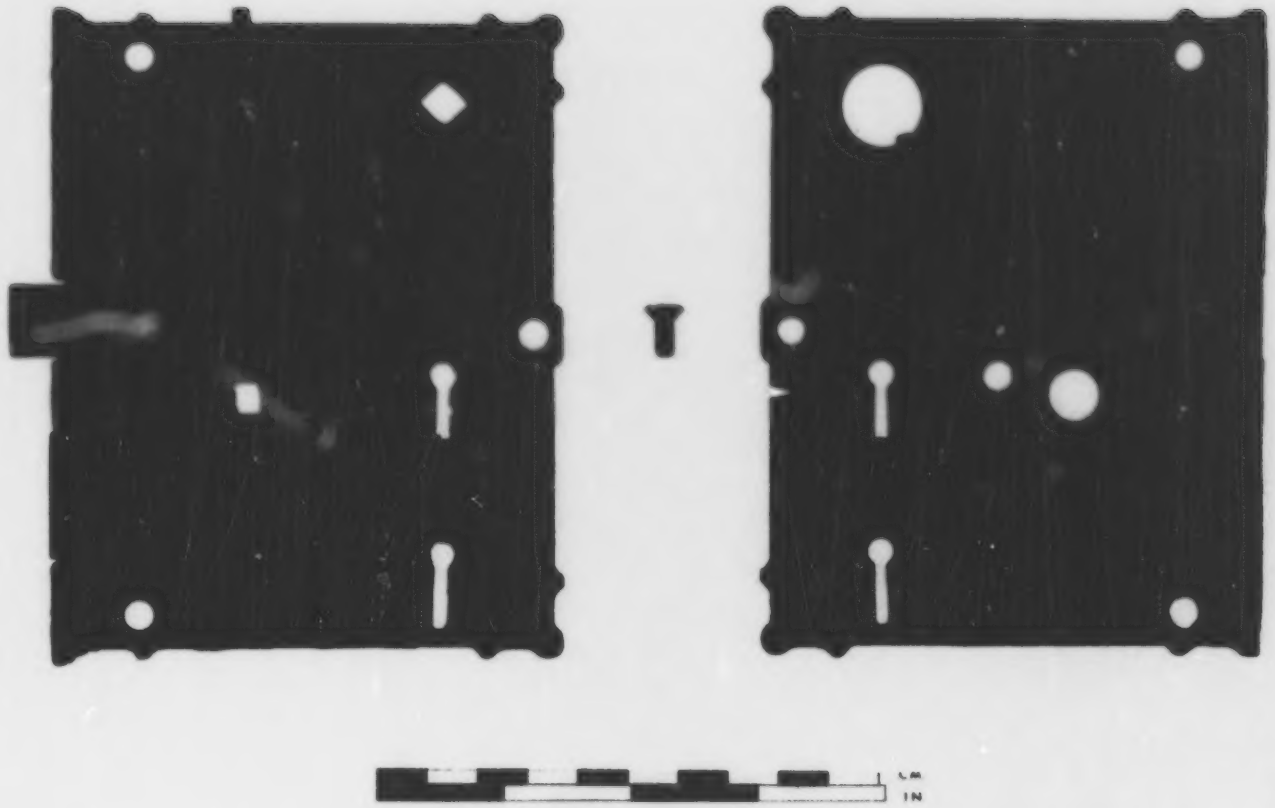
71 Rim lock, category 21; view of interior of case with assembled mechanism (13G1L1-3). (Photo by R. Chan.)



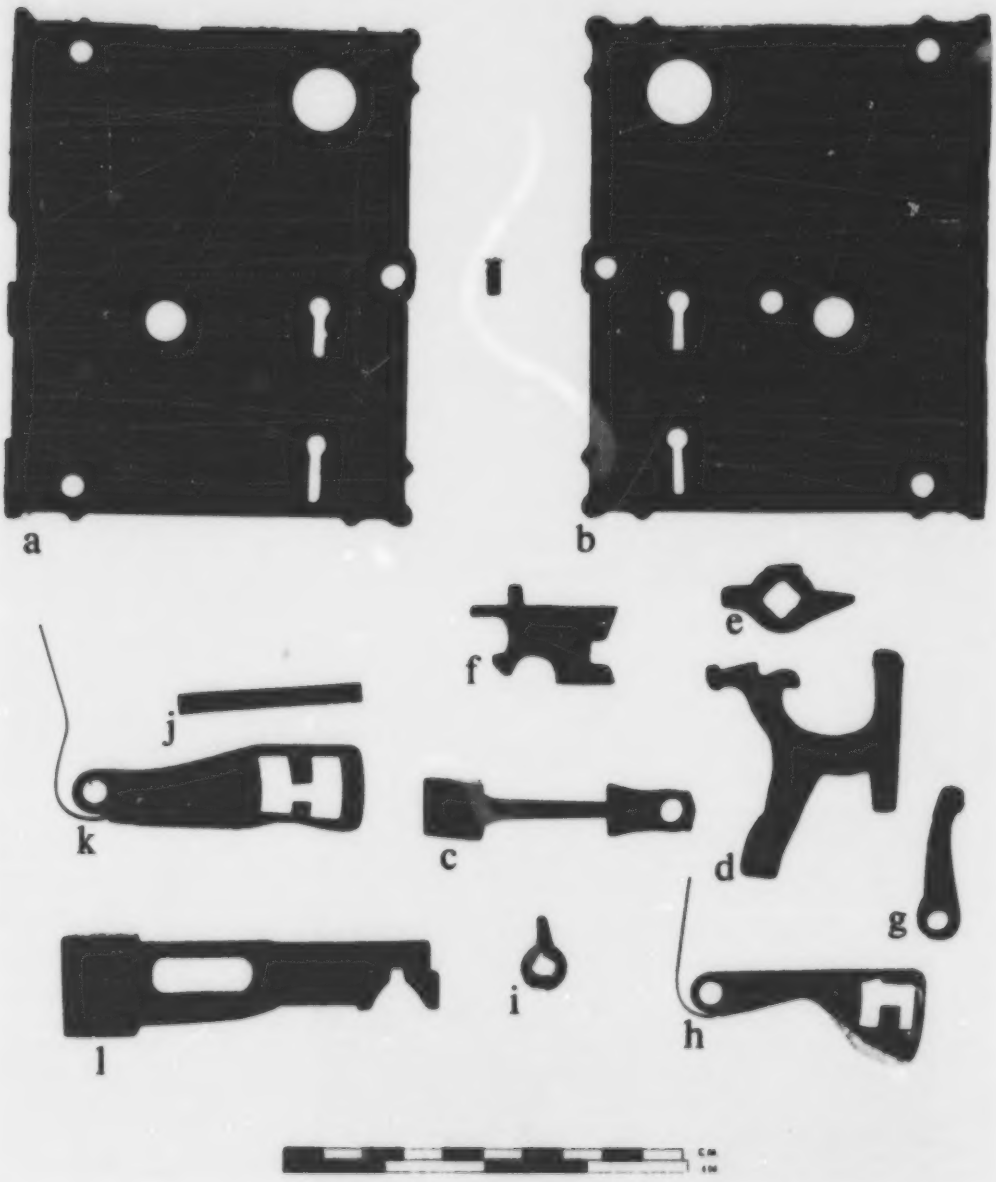
72 Rim lock, category 21; view of interior of case and disassembled mechanism (13G1L1-3): a, case ; b, cover; c, latch bolt; d, follower; e, crank; f, latch-bolt catch; g, spring; h, tumbler and attached spring; i, lock bolt. (Photo by R. Chan.)



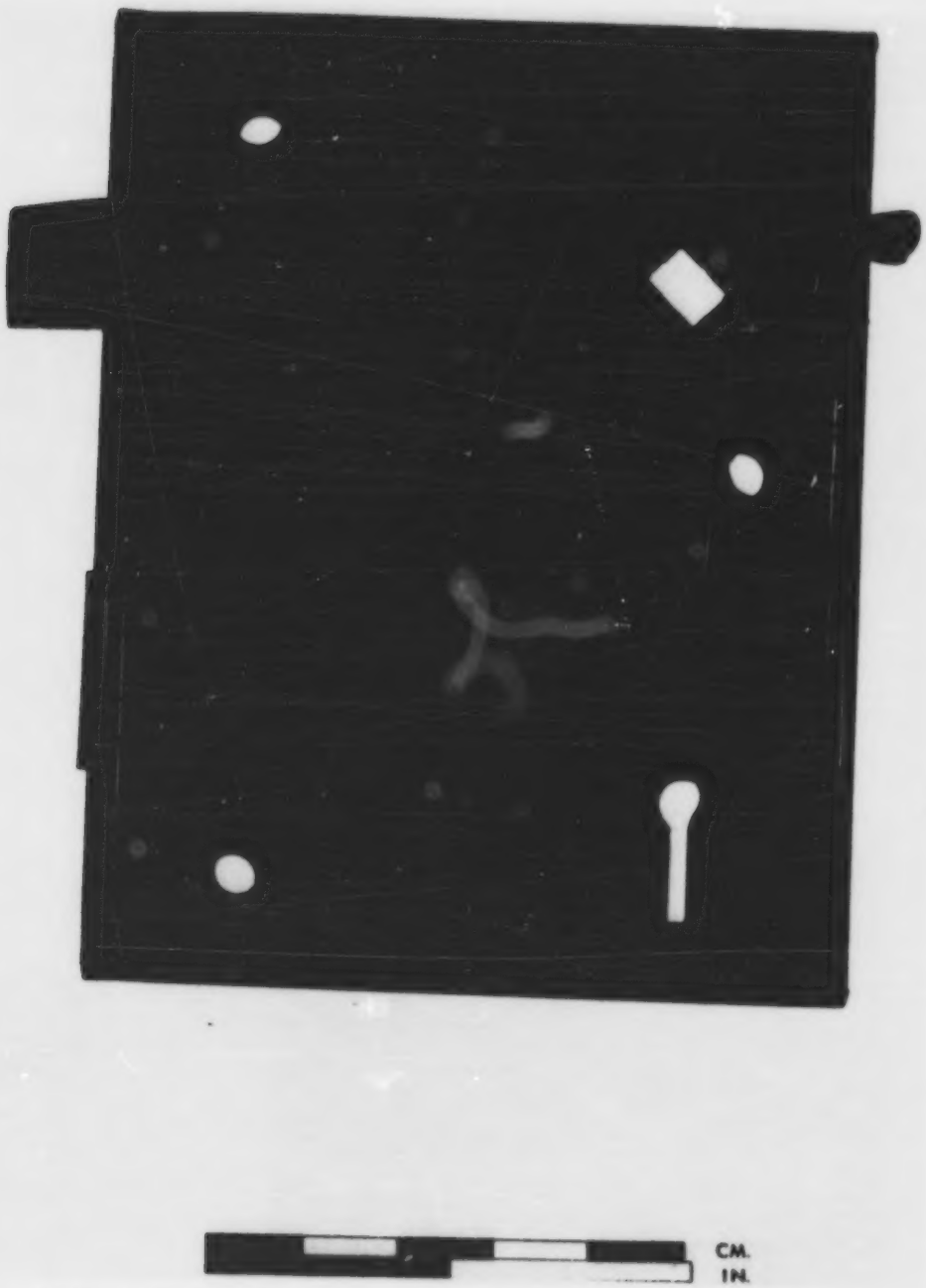
73 Rim lock, category 22; view of exterior of case with keeper (13G1M1-6). (Photo by R. Chan.)



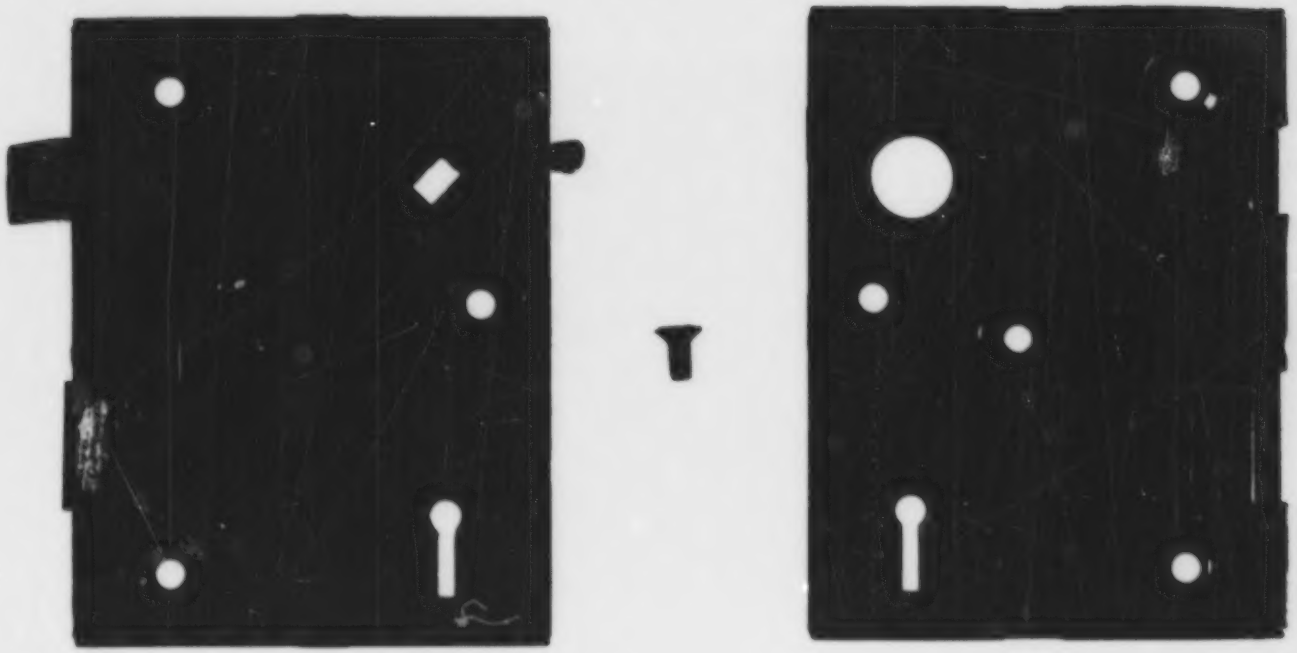
74 Rim lock, category 22; view of interior of case with assembled mechanism (13G1M1-6). (Photo by R. Chan.)



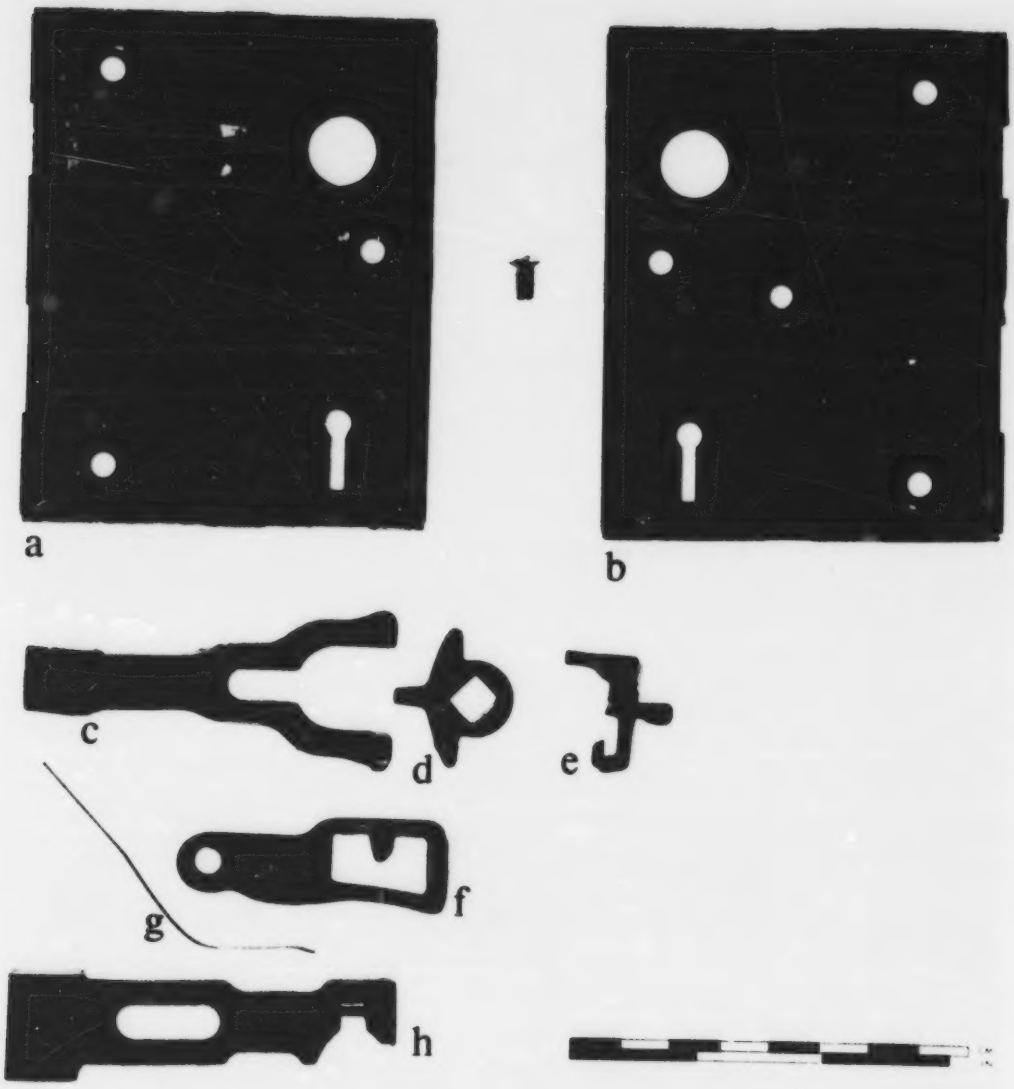
75 Rim lock, category 22; view of interior of case and disassembled mechanism (13G1M1-6): a, case; b, cover; c, latch bolt; d, crank; e, follower; f, latch-bolt catch; g, arm for key operation of crank; h, tumbler for key operation of crank; i, secondary follower acting directly on latch bolt; j, spring for latch bolt catch; k, tumbler; l, lock bolt. (Photo by R. Chan.)



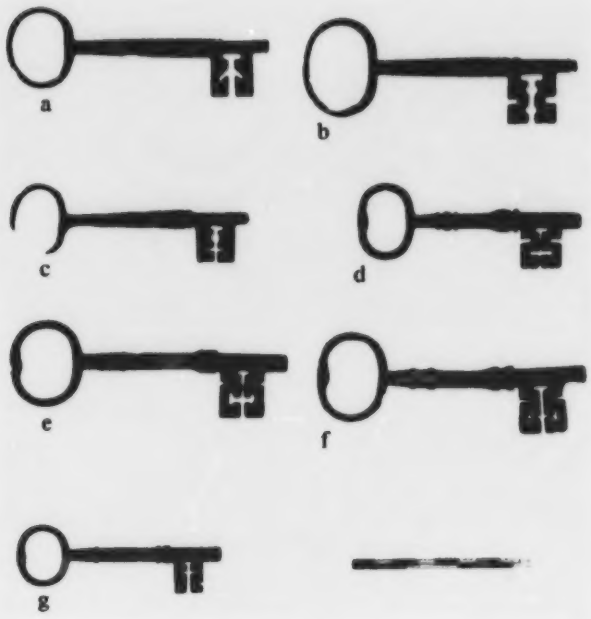
76 Rim lock, category 23; view of exterior of case (13G2N1-6). (Photo by R. Chan.)



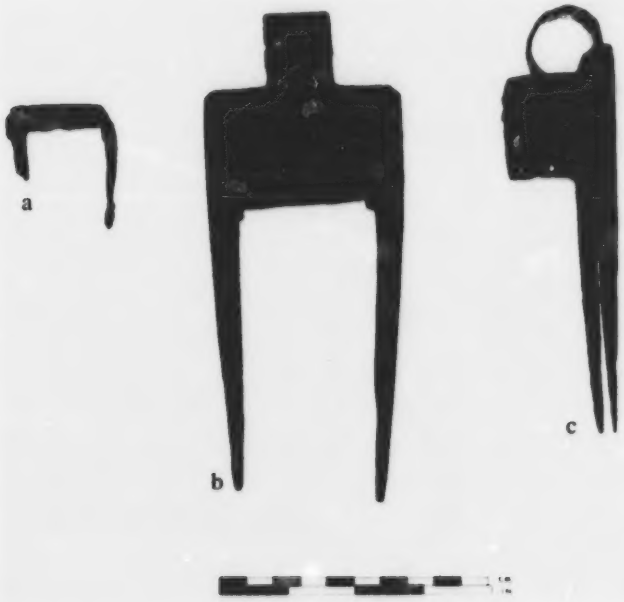
77 Rim lock, category 23; view of interior of case with assembled mechanism (13G2N1-6). (Photo by R. Chan.)



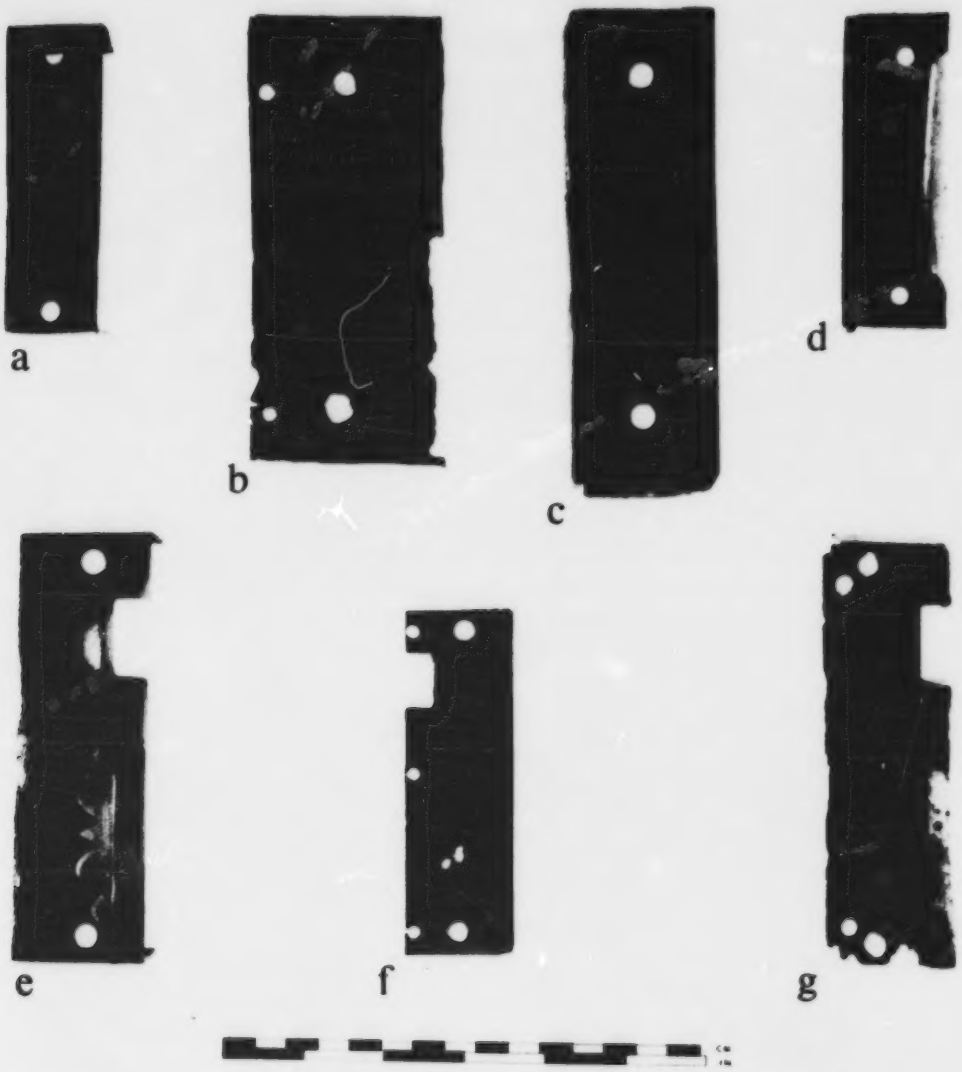
78 Rim lock, category 23; view of interior of case and disassembled mechanism (13G2N1-6): a, b, case; c, latch bolt; d, follower; e, latch-bolt catch; f, tumbler; g, tumbler spring; h, lock bolt. (Photo by R. Chan.)



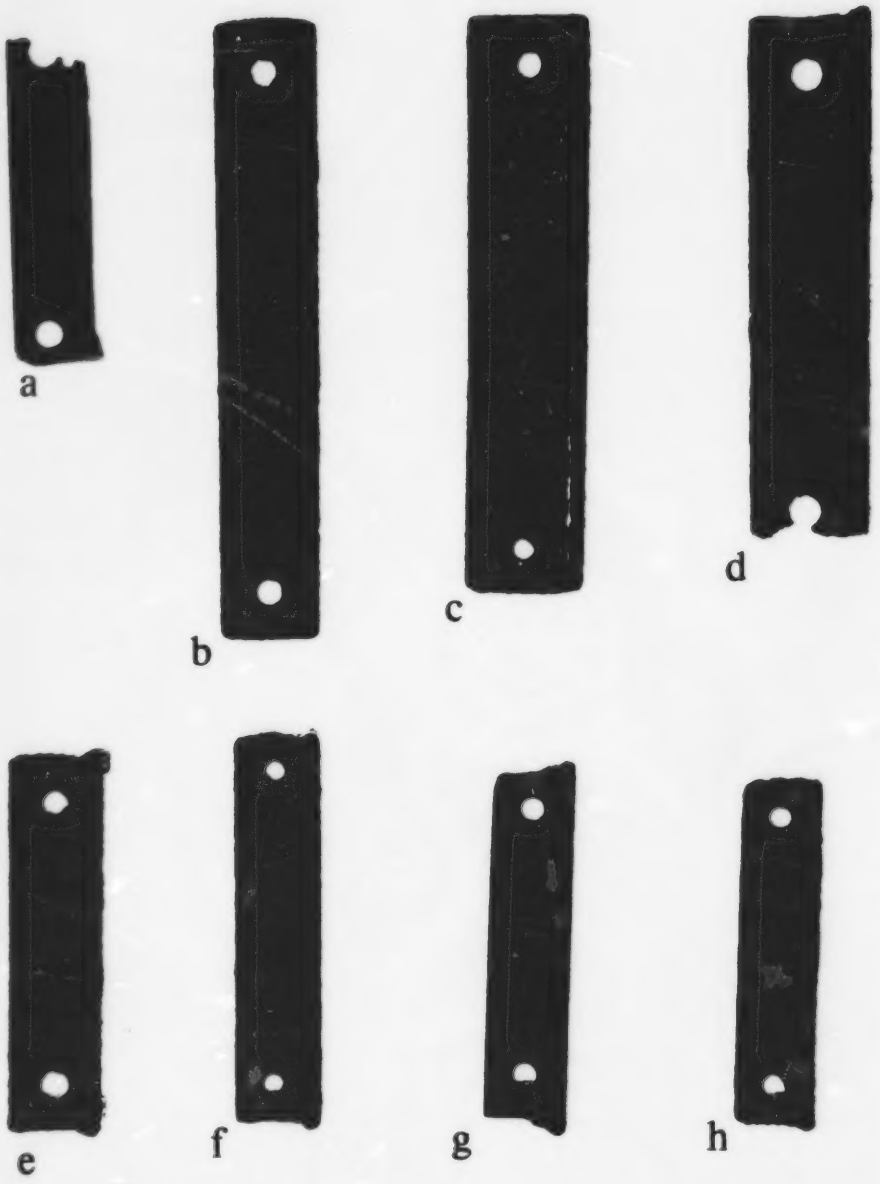
79 Keys for ward locks (5G33J8-1, 9G8G16-46, 2E4A1-92, 5G4A23-37, 5G4A48-27, 5G33Q3-1, 5G41P2-5). (Photo by R. Chan.)



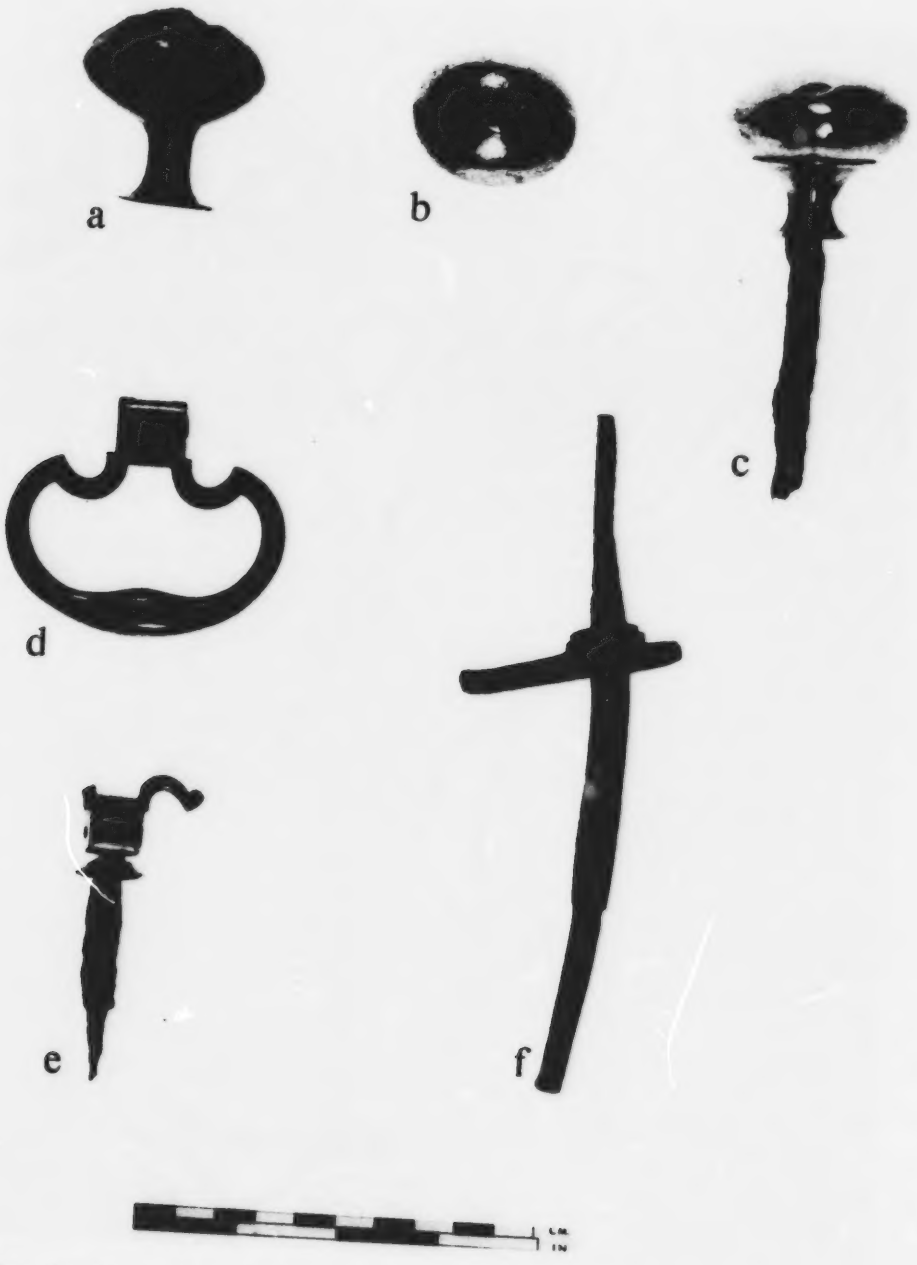
80 Staple-type keepers (2E1E3-51, 2K1A5-1, 2K1A5-50). (Photo by R. Chan.)



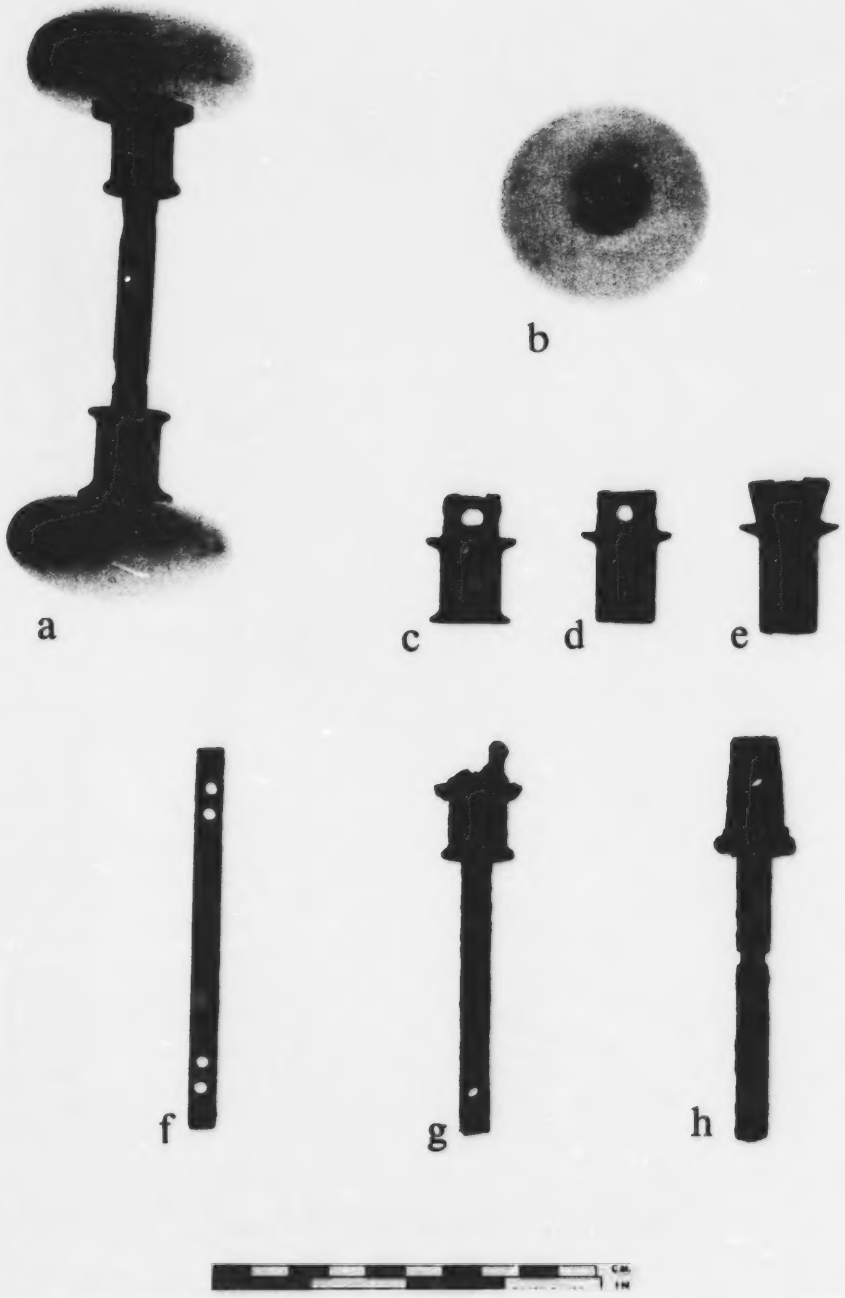
81 Box-type keepers: a, category 1 (9G4D3-131); b, category 2 (9G17D1-52); c, category 3 (9G4C8-118); d, category 4 (7N41A1-1); e-g, category 5 (author's collection, 5G34N4-7, 5G4A51-78). (Photo by R. Chan.)



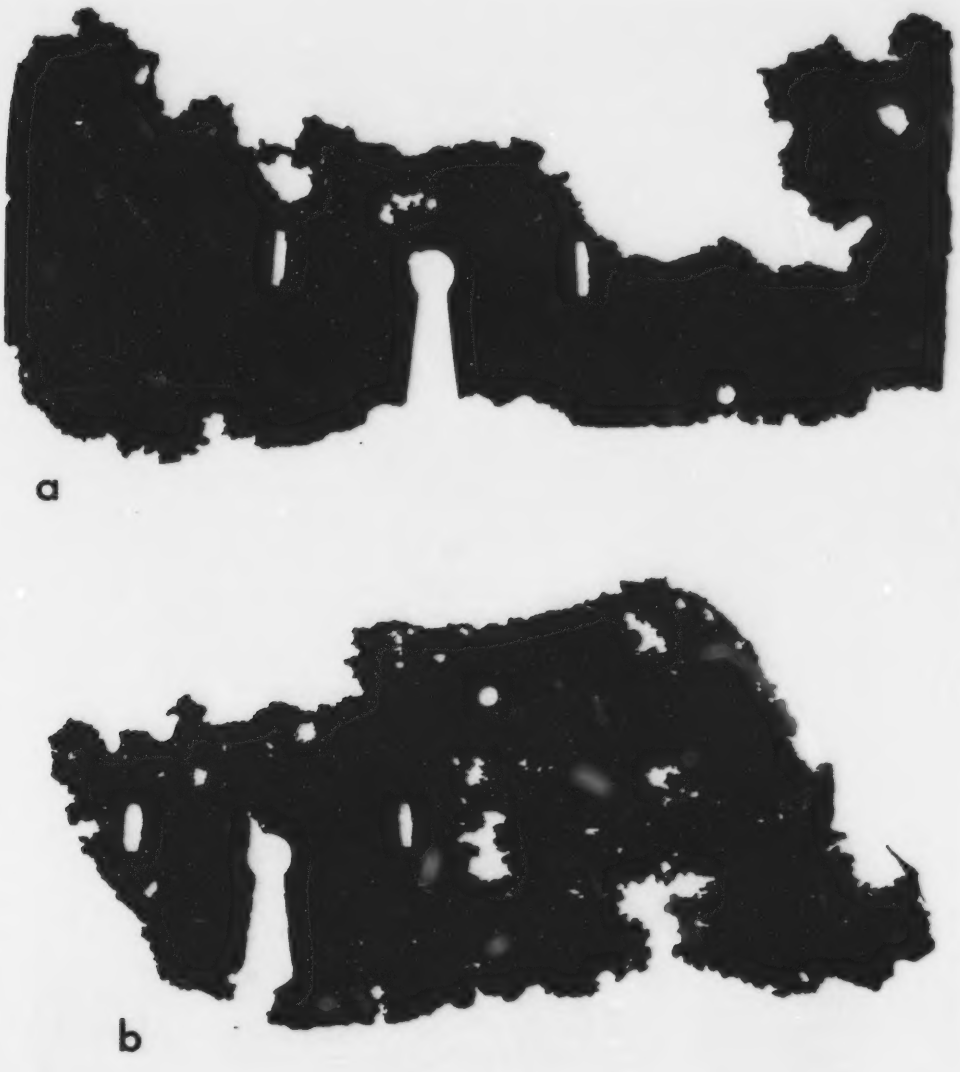
82 Box-type keepers: a, category 6 (9G6J2-61); b-h, category 7 (7N31E1-1, 7N37A1-3, 7N31J3-5, 7N31J3-6, 7N37B1-13, 7N37A1-6, 7N34D3-3). (Photo by R. Chan.)



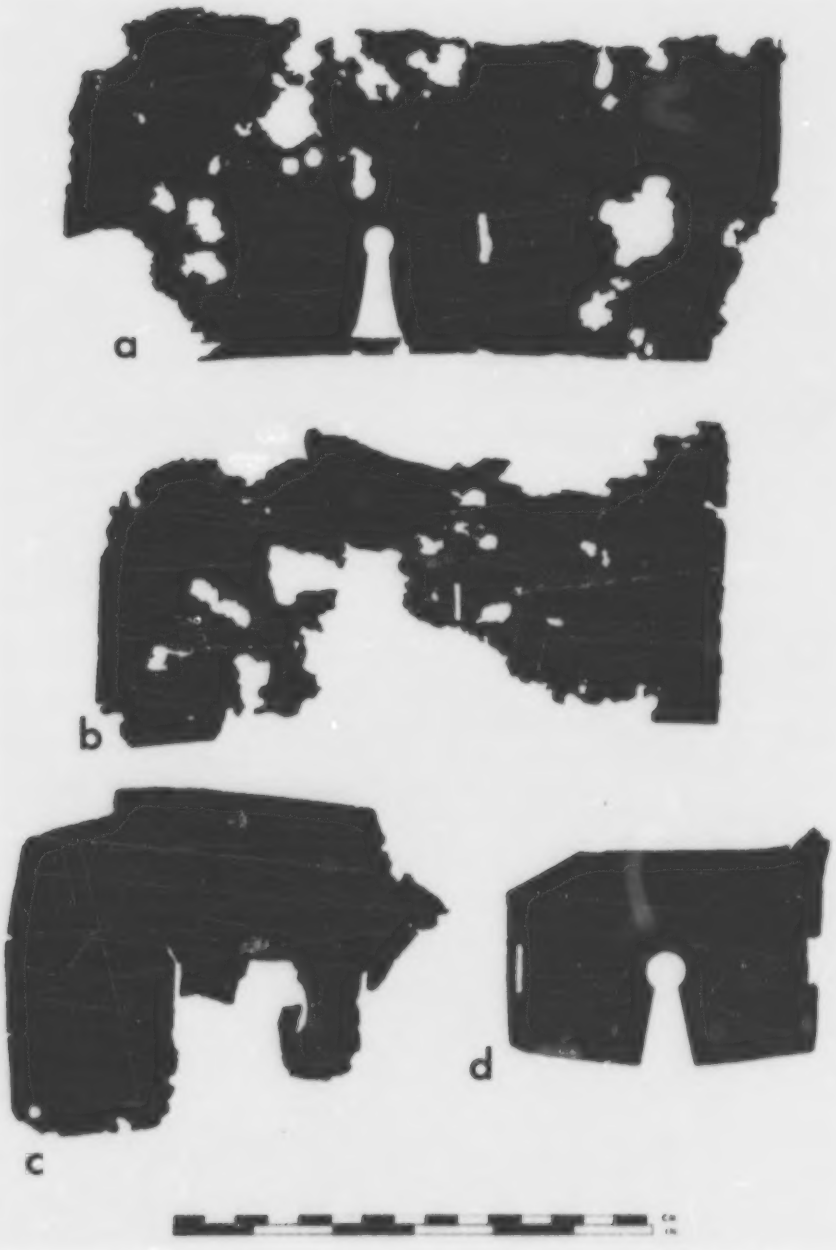
83 Knobs, handles and spindles: a-e, knobs and handles; a, b, category 1 (5B4B2-1, 19H8L6-2); c, category 2 (10H1A1-24); d, e, category 3 (1A20L1-1, 9G9C1-113); f, spindle, category 1 (9G4A15-100). (Photo by R. Chan.)



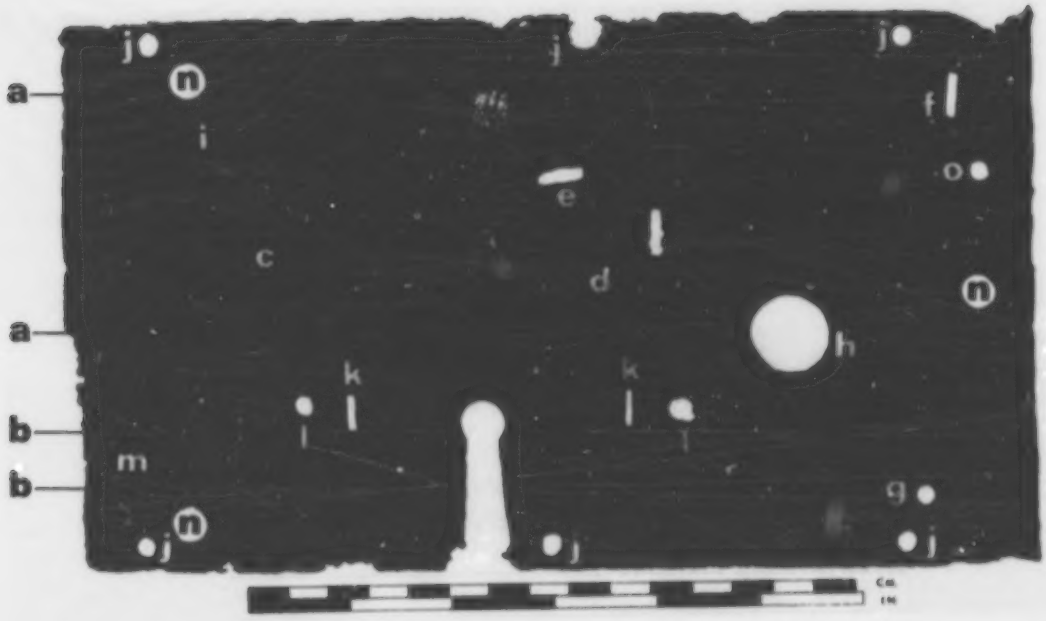
84 Knobs and spindles: a-e, knobs, category 4 (13G1M1-9, 7N31E5-7, 7N37D1-15, 7N38A1-2, 7N37D1-42); f, spindle, category 3 (7N37B1-42); g, h, spindle with knob neck attached (7N37D1-11, 7N37D1-41). (Photo by R. Chan.)



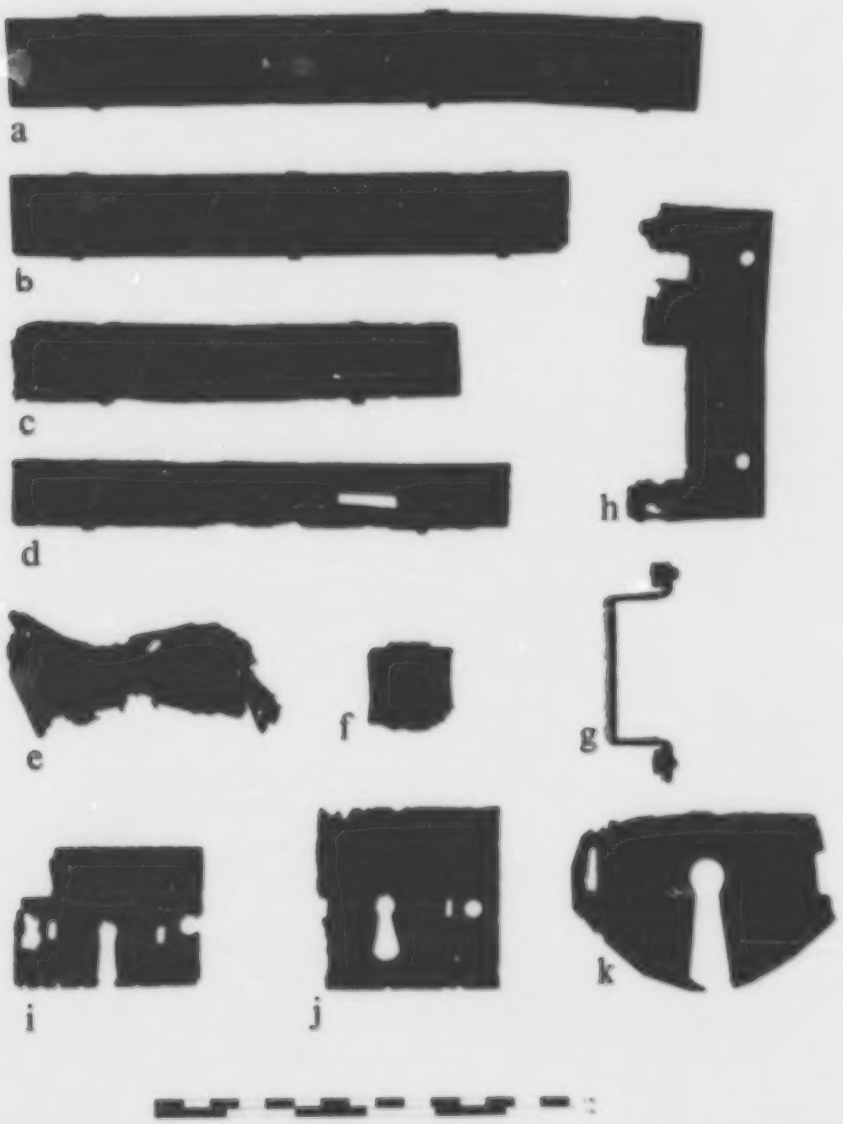
85 Main plates, undetermined lock type (2A6D6-8, 2A6D6-9). (Photo by R. Chan.)



86 Plate stock lock fragments: a-c, main plates (2A6D12-4, 2A6D6-10, 9G51A1-168); d, cover plate (9G31B1-69). (Photo by R. Chan.)



87 The interpretation of a rim-lock main plate (9G1B33-102):
a-a probable limits of openings for lock and latch-bolt heads;
b-b probable limit of opening for night-bolt head;
c stump for tumbler pivot;
d stump for tumbler rest;
e slot for attachment of scotch spring for tumbler;
f attachment slot for scotch spring for latch bolt;
g attachment hole for pivot pin for intermediate arm to transmit spring action to latch-bolt foot;
h hole for follower;
i stump for latch-bolt stop on withdrawal;
j holes for rim rivets of top and bottom;
k slots for attachment of cheeks;
l holes for attachment bolts of cover plate;
m spring for night bolt;
n holes for attachment of case to door;
o unidentified; possibly hole for attachment of ornamental end of scotch spring.
(Photo by R. Chan.)



88 Door-lock parts: a-c, top or bottom plates with rim rivets, for rim lock (9G5N3-36, 2E22D2-52, 2E18B2-3); d, bottom plate for three-bolt rim lock with slot for handle of night bolt (3E8B2-5); e, box of wards, in this case probably for a plate stock lock (2A6D20-2); f, cheek and fragment of a bridge or main ward (2A6D14-4); g, square guide staple from a rim lock (2E22D4-52); h, front plate from a two-bolt lock (2E16D1-31); i, j, cover plates, probably for a rim lock (2E17L2-66, 2E25B4-8); k, cover plate, probably for a plate stock lock (2A6D6-11). (Photo by R. Chan.)

Inverarden: Retirement Home of
Fur Trader John McDonald
of Garth
by Robert J. Burns

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Abstract

In 1816, after 23 years in the western fur trade, North West Company wintering partner John McDonald of Garth retired to eastern Upper Canada where he lived as a country squire until his death 50 years later. He built an impressive residence, now called Inverarden, in the Regency Cottage style in 1816. This report, prepared as part of the Inverarden restoration programme, outlines McDonald's retirement career and traces the construction of and later modifications to his house. It also deals with the historical landscape.

Submitted for publication 1978, by Robert J. Burns, Parks Canada, Ontario Region, Cornwall.

Introduction

John McDonald of Garth was born in Scotland about 1771 or 1772 and came to Canada as a clerk in the North West Company in 1791. Within a decade he had become a wintering partner and was responsible for establishing several western trading posts prior to his retirement to Montreal in 1814. In 1816 McDonald purchased land fronting on the St. Lawrence River in eastern Upper Canada, just east of Cornwall. Here he built an impressive rubble stone and roughcast home in the Regency Cottage style on a small rise overlooking the river. Identical wings were added about 1821, enlarging the house and yet retaining its original Georgian symmetry. Though he remained in the area living as a country squire until his death 50 years later, McDonald left Inverarden, as it is now called, about 1823 and sold the house in the following year to a daughter and her husband, John Duncan Campbell. The house remained in the Campbell family, undergoing some minor structural modifications including the addition of a rear shed and the installation of modern plumbing facilities, until 1965 when it and the surrounding farm were sold to Chemcell Ltd. (now Celanese Canada Ltd.). In 1968 Inverarden was recommended by the Historic Sites and Monuments Board as being of national historical and architectural importance. The house and surrounding two-and-a-half acres were purchased by the crown in 1972.

This historical report was prepared as part of the Inverarden restoration programme conducted by Ontario Region. It outlines the historical and geographical setting, summarizes McDonald's retirement career, traces the construction of and later modifications to his house, and deals with the immediate historical landscape.

The Scottish Connection

Demography

One cannot fully appreciate the history and significance of Inverarden without examining the house in its wider setting. Like many other retired North West Company fur traders, John McDonald of Garth was drawn to the eastern corner of Upper Canada in part because of the area's largely Scottish population. The Eastern District was first settled by Scots Loyalists, but the peculiar heritage of McDonald's neighbours must be traced back, beyond their forlorn flight from New York State, to Scotland in the mid-18th century. When Bonnie Prince Charlie's hopes to wrest the English crown from James II were dashed on the field of Culloden in 1745, the last of the Stuarts fled to France. His supporters, many of them Highlanders and Roman Catholics, were left to endure the vengeance of the victors. Soon Catholicism and the very clan system itself were being systematically undermined. At the same time Scotland was experiencing profound economic upheavals. In a desperate effort to maintain economic and social position, the great chieftains of Scotland began turning from tenant farming to sheep raising; in the process thousands of Scottish peasants lost their tiny plots of land and their livelihoods. The same process was occurring in England as the new industrial towns began to swell with dispossessed tenant farmers. The Scots, especially the Catholics, were decidedly unwelcome. Goaded by misery and poverty, some Scots joined regiments of the English army. Others chose emigration and for some the final destination was the Mohawk Valley of New York and the estates of Sir John Johnson. Here, it was hoped, the old way of life could be re-established with Johnson as a new laird and the Highland and Lowland Scots in their traditional roles as tenant farmers. As late as 1773 some 650 Scottish immigrants, almost all Catholics, were settled on Johnson's lands, but the tranquility so long sought was not to be found in the colony of New York. By the mid 1770s the recent refugees found themselves in the midst of a virtual civil war which would see the partial dismemberment of the British Empire and the creation of two new political entities, the United States of America and British North America.

Many of the Mohawk Valley Scots had fought against the English crown in 1745, but they were not Republicans. For them fine theories of egalitarianism were too easily equated with mob rule and anarchy. For them the coming of the American Revolution meant, not the choosing of sides, but the protection of a traditional way of life. Many of the recent Highland immigrants joined the 84th Regiment of Foot, the Royal Highland Emigrants, raised for service in Canada in 1775 by Colonel

Allan Maclean.[1] Johnson's tenants joined the regiment which he commanded, the King's Royal Regiment of New York, the Royal Yorkers or Johnson's Royal Greens as they were known by the Americans.[2] Their efforts against the Revolution, which gained them the enmity of their neighbours, were doomed by Cornwallis's surrender at Yorktown in 1781. With the coming of peace in 1783, those who had not already retired to Canada began the arduous overland trek with what possessions they could carry. The British government, mindful of its debt to these men and their families, made arrangements to settle them in what was then western Quebec, just beyond the fringe of the French-Canadian population. Five new townships were surveyed along the north shore of the St. Lawrence early in 1784 and during the summer, in a quasi-military operation, the Loyalists of both regiments and their families were located in groups on the basis of religion and ethnicity. The first township, Lancaster, went to the Highland Catholic Scots, presumably because it was felt that their religious persuasion would better enable them to harmonize with their French-Canadian neighbours to the east. The second township, Charlottenburgh, was settled by Scottish Presbyterians, and the third, Cornwall, by a mixture of Scots and German Calvinists, also past tenants of Sir John Johnson.[3] Though they were supplied with food, clothing and implements from British military stores in their first few years, the newly settled Loyalists faced an awesome task. Yet, having been dispossessed twice in as many generations, they were determined to succeed. Settled in small groups and protected from outside encroachment by the clan system and their Gaelic tongue, they clung to and cherished their traditions with a tenacity which is difficult to appreciate. Thus the Scottish character of the Eastern District, which is visible to the present day, was impressed upon the land from its first settlement. That character was to be reinforced before McDonald's arrival in 1816.

Continuing problems in Scotland and the relative success of the new settlement on the St. Lawrence led to further immigration and a consequent strengthening of the initially Scottish character of the Eastern District.[4] In 1786 a Catholic priest, Alexander Macdonell, led a party of 500 from Glengarry, Scotland, to lands in Stormont and Glengarry counties just north of the original Loyalist settlers.[5] In the following decade a number of similar though smaller groups arrived to take up land in the two counties. The last large-scale Scottish migration to the Eastern District occurred in 1803-04 under the auspices of another Father Alexander Macdonell, the future first Roman Catholic bishop of Upper Canada.[6] Macdonell brought to Glengarry 1,100 Highland immigrants, most of them disbanded soldiers of the Glengarry Fencible Regiment, and their families. In the same year another Scot, John Strachan, the future first Anglican bishop of Upper Canada, located in Cornwall and opened a school which would become famous as the nursery of the Family Compact. The Reverend John Bethune, chaplain to the Royal Highland Emigrants and father of another future Anglican bishop, had arrived in Glengarry County in 1787 to minister to the needs of the Presbyterian Scots.

If the small but thriving Scottish settlement of the Eastern District attracted immigration directly from Scotland, it also acted as a magnet during the first quarter of the 19th century upon many of the wintering partners of the Montreal-based North West Company. Some of

these men, like John McDonald of Garth, were probably drawn by familiar cultural patterns; others, first- or second-generation residents who had exchanged the mundane duties of pioneer farming for the adventure and wealth to be found in the fur trade, were simply coming home. The North West Company fur traders retired one by one and with varying degrees of wealth, but many became locally prominent residents. Certainly their impact upon the community far outweighed their numbers. Unfortunately, in the past historians have tended to concentrate upon the fur-trade careers of these individuals and as a result not much has been written about their retirement years in the Eastern District. Perhaps best known are the North West Company partners and explorers Simon Fraser and David Thompson. Other lesser known fur traders who settled in the area include Hugh and Donald McGillis, John McGillivray, John and Miles Macdonell, Alexander Macdonell, John Duncan Campbell, Angus Bethune, Duncan Cameron and Finan McDonald.[7]

The overwhelming preponderance of Scots among the settlers of Glengarry and Stormont counties was noted and commented upon by contemporaries. Robert Gourlay, the author and reformer who toured Upper Canada in 1817 gathering material for his Statistical Account, wrote of Charlottenburgh Township that it was "so entirely confined to Scottish settlers it seldom attracts other strangers."[8] John Howison, a traveller who passed through the Glengarry settlement about the same time, noted that Gaelic seemed the predominant language. Howison was critical of the lack of agricultural progress exhibited in most of the farms he saw; the inhabitants he described as "dirty, ignorant, and obstinate."[9] Graduations of wealth in the Eastern District were probably quite severe, yet it is unlikely that John McDonald of Garth, with his memories of the poverty in Scotland and his associations with other retired fur traders, would have shared Howison's jaundiced view of the settlement. What is perhaps the most accurate account of the area at the time of McDonald's arrival was prepared by the inhabitants themselves in response to a questionnaire from Gourlay. The residents of Charlottenburgh Township were the only ones (out of 12 townships) to respond, but as Inverarden is located close to the western border of that township, their comments are especially useful to us. Gourlay estimated the population of Cornwall and Charlottenburgh townships including the town of Cornwall at approximately 5,000, but admitted this was largely guesswork.[10] Those who prepared the Charlottenburgh questionnaire estimated that there were about 2,500 settled in the township. The presence of two Roman Catholic priests and one Church of Scotland minister gives a rough indication of the religious persuasions of the inhabitants. The township also boasted two doctors, 12 schools, 12 stores, 18 taverns, and four grist mills. The soil was described as "black deep loam" and the topography as "generally level, with some swamps."[11] Wild land had originally sold for one to five shillings per acre, depending presumably upon its condition and its proximity to water transportation. By 1817 its price ranged from £1 to £1.10 per acre and it was estimated that a 200-acre farm with 30 acres cleared and including a frame house and barn would cost from £500 to £600. A labourer's annual income was about £25 to £36 while blacksmiths, masons and carpenters could expect to earn respectively 7s.6d. to 8s.9d., 7s.6d. to 10s., and 5s. to 10s. for a day's work. Horses, cattle and sheep sold for just below the provincial

average.[12] Like most of the semi-settled regions of Upper Canada after the War of 1812, the Eastern District offered great opportunities to the industrious labourer or craftsman. The relatively affluent, such as John McDonald of Garth and his fellow retired fur traders, could look forward to a comfortable material life, an influential role in local affairs, and ready admittance into the community's highest social circles.

The Inverarden Property, 1784-1816

Inverarden is located in the southeast corner of Stormont County and Cornwall Township (now part of the City of Cornwall). The house is situated at the front of the east half of lot C in the first concession. The land was originally part of a Loyalist crown grant made to Major James Gray of the King's Royal Regiment of New York in 1784.[13] Gray was born in Scotland and served as a professional soldier in two British regiments before settling in the Mohawk Valley. He was second in command to Sir John Johnson during the revolutionary war. While the amount of land allotted to Loyalists was based upon previous military rank, the choosing of locations was supposedly an egalitarian process with officers and men drawing location tickets from a hat. Be that as it may, James Gray acquired a most eligible tract of land just east of Cornwall and fronting on the St. Lawrence River. His original grant of 1,500 acres consisted of lots D, C, and the east half of B in the first, second and third concessions of Cornwall Township. Most of this land was well drained by two branches of Gray's Creek (named after Major Gray) and, in the north, by the south branch of the Raisin River.[14] A map of the area prepared by Patrick McNiff in 1786 indicates a cedar swamp in part of the second concession and a well-drained meadow in the third (see Fig. 1). A survey of the land immediately to the east of Gray's estate, completed in 1821, shows some sandy soil in the first concession along with stands of elm, beech, and hemlock trees[16] (see Fig. 2). A maple woods in the front of the second concession gave way to cedar, pine, balsam, larch, birch and some maple in the third concession.[17] Gray's land, immediately adjacent to that described, was almost certainly similar in soil and vegetation. There is no direct evidence relating to either the exact location or the scale of Gray's home. It was likely built close to the river front, possibly on the height of land on lot D, or perhaps on the rise where Inverarden now stands. Inverarden in fact is located almost exactly in the centre of the front of Gray's original land grant. Gray was a subsantial member of the new Loyalist community and no doubt his home befitted his station in life. He was recommended for a seat on the original Executive Council of Upper Canada by Lord Dorchester and was appointed a county lieutenant by Lieutenant Governor John Graves Simcoe.[18] Simcoe saw the latter position as the nucleus of a colonial aristocracy. When Simcoe and his entourage travelled up the St. Lawrence to Niagara in 1792, they visited with the Grays and stayed overnight.[19] As early as 1785 a traveller referred to "Major Gray's farm at Gray's Creek,"[20] and in reference to his estate, Attorney General John White informed Simcoe that Gray had "considerably improved" his lands prior to his death in 1795.[21] There is no direct reference to the acres of bush cleared, but one receives the impression that the farm

was somewhat of a showpiece in the community. Gray's wife, Elizabeth, died in 1800 and the property went to their son, Robert Isaac Dey Gray, by then solicitor general of Upper Canada and MLA for Stormont and Russell.[22] Robert Gray died suddenly in 1804 and in his will bequeathed the Gray's Creek estate to two cousins in England. It was from these individuals and through the medium of the Reverend Alexander Macdonell that John McDonald purchased his estate in 1816. It is probable that the land was not worked in the intervening years and that the home occupied by the Gray family fell into disrepair. If there were habitable buildings on the property in 1816, McDonald did not use them, but chose rather to board with a local farmer until Inverarden was built.

John McDonald of Garth: Personality and Fur-Trade Years, 1771-1816

Some knowledge of the career and character of the man for whom Inverarden was built, John McDonald of Garth, is essential to an understanding of the house in its proper historical, architectural, and social contexts. It is the purpose of this chapter to give a brief outline of McDonald's career while stressing his personality, his views and his aspirations; it is these qualities, rather than actual events in his life, which will help to give meaning to the physically restored structure.[1]

John McDonald was born at the family estate near Callendar, Perthshire, Scotland, probably in 1771 or 1772. His grandfather had supported Charles Stuart and was wounded at the battle of Culloden in 1745; his father, John McDonald, served as a captain in the British army. Little is known of John's formative years, but he was probably educated by private tutor. He too was destined for a military career, but a slightly crooked right arm, the result of a childhood fall, barred his way. Instead, in 1791, through the patronage of his granduncle Major General John Small, a personal friend of Simon McTavish, then the leading figure in the North West Company, McDonald was bound as a clerk to the company. His early years give one the impression that he was the younger son of a "good" but none too affluent family who was given his start through distant family connections, but whose success or failure would depend largely upon his own exertions.

General Small must have been well acquainted with his young protégé's character and personality. When McDonald sailed from Granock, Scotland, in April 1791 he carried with him his granduncle's admonition to be "modest, mild and unaffecting to your Equals and even to Inferiors" as well as "affable and Courteous to all you converse with."[1] Small's words did not immediately have their desired effect; McDonald had challenged two individuals to duels before settling in for his first winter in the Northwest.[2] Part of this belligerency may perhaps be explained as the efforts of a would-be Scots warrior to compensate for a physical disability. McDonald may also have been sensitive of his small physical stature as well as his deformed arm for he described his opponents as "a tall Scot" and "a large Englishman."[3] Whatever the reasons for his pugnacity, it was a characteristic which he displayed throughout his life. McDonald, intelligent and sharp-minded, quickly mastered the intricacies of the fur trade under the able tutelage of Angus Shaw. Aggressive, bold and impetuous, McDonald was ideally suited to serve the North West Company during its years of intensifying struggle with the Hudson's Bay Company,

and he soon gained the respect, if not always the admiration, of those with whom he worked. On a number of occasions McDonald found himself in charge of small posts with their inevitable Hudson's Bay Company opposition nearby; with economic competition bordering at times on open warfare, men of McDonald's character were a definite asset to the North West Company.

McDonald was not merely an aggressive individual who enjoyed a successful career because he happened to be at the right place at the right time. He built several fur-trading posts including Fort Augustus (1795) and Rocky Mountain House (1799),[4] and was made a wintering partner of the North West Company about 1800. He married Nancy Small, the half-breed daughter of a fellow wintering partner, in 1799 and the first of five children was born to them in 1801 at Kaministiquia (Fort William, near present-day Thunder Bay). While he used bravado and threats to intimidate his Hudson's Bay Company opponents and the Indians whom he felt "must be taught to respect the whites," he was not invariably a proponent of violent means.[5] On his return overland from the Pacific coast in 1814, McDonald encountered a tense situation at the Red River settlement. Governor Miles Macdonell had placed an embargo on pemmican, an item essential to the existence of the North West Company. The Nor'Westers in turn were preparing to destroy the colony. McDonald suggested a compromise which was accepted by Macdonell. Ironically McDonald, the man of action, saw his compromise disavowed and himself criticised for averting the planned destruction of the colony at the June meeting of the North West Company partners.[6] While there is no reason to suspect a connection, McDonald did retire within a few months of this incident and after 23 years in the fur trade.

If a single anecdote can be used to epitomize both McDonald's personality and the myth and reality of his role in the fur trade, it would surely be a relatively minor incident which occurred during the War of 1812. In 1813 McDonald participated in the North West Company's campaign to wrest the trading post Astoria from the American Fur Company. During the ocean voyage from London to Astoria via Cape Horn, McDonald, as he later claimed, "alone quelled a Mutiny amongst the Sailors in five minutes."[7] McDonald admitted that his reminiscences, written half a century after the events, were "more egotistical than historical as a matter of course,"[8] but one can well imagine him stepping brazenly and coolly into potentially explosive situations. He was not mellowed by his years in the fur trade.

Though he had had few opportunities during his long fur-trade career to display this side of his personality, McDonald very much enjoyed the good life of pleasurable self-indulgence. He spent the winter of 1803-04 on rotational furlough and passed the time visiting his brother Angus, whom he had not met in 16 years, and "seeing the wonders of London."[9] McDonald claimed that time did not permit him to visit Scotland, but he did return to Montreal with a full-length portrait of himself. Interestingly, the portrait does not reveal a crooked right arm, probably as much an indication of the subject's sensitivity as of the artist's poetic licence. The portrait shows a slight but self-assured, well-dressed and not unhandsome young man (see Fig. 3).[10] Some four years after his trip to London McDonald, having fallen ill, was obliged to pass the winter, at times

contemplating retirement, in Montreal with his sister. Magdalen McDonald was now the wife of William McGillivray, nephew and successor to Simon McTavish of the North West Company. McDonald was also acquiring the attributes of a gentleman of leisure in keeping with his plans for retirement. Though ill for a time, he managed that winter to accumulate the largest entertainment bill of any member of the famous Beaver Club.

For John McDonald the good life really began in November 1814 when he retired from the North West Company. After arriving in Montreal, he sold his two shares back to the company for £10,000 and added his new-found wealth to the £1,000 in credit which he had accumulated with the Montreal firm of McTavish, McGillivray and Company.[11] He spent that winter in Montreal "admidst gaiety, amusements and feasting."[12] For a full year and a half McDonald enjoyed the social life of Montreal before deciding to settle in Stormont County and build his country home. It is not too much to say that Inverarden (McDonald called it Gart)[13] was the embodiment of McDonald's dreams and aspirations. Its commanding view, its impressive bulk, its carefully balanced symmetry, and its fine joinery and delicate panelling are all monuments to McDonald's taste and to his money. Inverarden was built as the home of a successful entrepreneur in a rough and dangerous trade, but also for a man as comfortable discussing international politics as he was trading European goods for furs on the far side of the continent. Inverarden was built as the home of a country squire who, in a decade, would have over 60 tenants living on and working his lands. Inverarden was a fitting home for a man who would become a justice of the peace and judge of the Eastern District Surrogate Court. The house and its builder are so intertwined that the former cannot be fully appreciated without some knowledge of the latter's background and personality.

John McDonald of Garth: Retirement Years, 1816-66

McDonald as Country Squire and Gentleman Farmer

During the summer and fall of 1816 McDonald supervised the construction of his first home at Gray's Creek. Though originally constructed without its wings, Inverarden, with its commanding view of the St. Lawrence, was an impressive dwelling place and well suited to the needs and pretentions of a country squire. It was originally a one-and-a-half storey "cottage" of rubble stone and stucco exterior with an excavated basement for kitchen and larder facilities and several rooms for servants' quarters. The main floor consisted of large dining and drawing rooms separated by an ample hall and an elegant staircase; two smaller rooms, probably bedrooms, formed the rear section of the main floor, which was heated by three fireplaces. The upper half-storey was not divided into rooms. From the disbursements listed in McDonald's accounts for 1816 one can deduce that he spent perhaps £1,500 to £2,000 in the construction of his home;[1] this figure coupled with his expenditure for the land and his living expenses amounted to over one-third of his capital. By the end of the following year McDonald had spent more than half of his original £11,000.[2] These substantial drains could not be continued without dire financial results. The house was habitable, if not complete, by the fall of 1816 and McDonald and his wife were living there by the end of the year; their fifth and last child, Magdalene, was born in October at Inverarden and baptised in Cornwall in December.[3]

McDonald furnished his new home in a manner fitting to his position as a country gentleman. The furniture, much of which is now in the hands of descendants, was imported from England, probably through his brother Angus, who was a London merchant and army agent. It included two sofas, a pair of pedestal card tables, an oeil-de-boeuf mirror, a secretary-bookcase, and a dining table, chairs and matching sideboard, all in Regency style. He also purchased at least 24 yards of carpeting for his new home.[4] One of McDonald's finer acquisitions was a rosewood piano manufactured by John Broadwood of London, "makers of pianos to his Majesty George III and the Princesses,"[5] which he appears to have purchased shortly before leaving Montreal.[6] The piano was well used by his daughters[7] and one can imagine that the new house soon became one of the focal points of local society. McDonald's social position was confirmed early in 1821 when he first took up his duties as a justice of the peace.[8]

McDonald did not rely upon the prestige of a fine estate and inclusion in the local magistracy to maintain his position in local

society. Using the example of his ancestral homeland and its landed aristocracy as his guide, he began to invest in land in the Eastern District. By 1817 he was buying land to the east of his estate in Charlottenburgh and Lancaster townships. In 1818 he began a programme of clearing his own land for farming at the rate of 10,000 board feet of lumber sawn per year by a local miller on Gray's Creek.[9] In the same year he purchased the 100-acre farm immediately to the east of his own estate and in Charlottenburgh Township;[10] later in 1818 he successfully petitioned the government for a town lot in Cornwall, describing himself as a resident of Charlottenburgh.[11] By mid-1820 McDonald, in partnership with Alexander McDonell (Greenfield), had obtained the government contract to survey Clarence, Cumberland and Gloucester townships in the Ottawa District.[12] McDonald's eldest son, William, did at least part of the surveying. In 1827 McDonald tried unsuccessfully to purchase the 70-acre island in the St. Lawrence immediately in front of his farm.[13] By the mid 1840s McDonald owned over 7,000 acres of land, much of it unimproved and of immediate value only for its timber;[14] this was especially true of the lands in the Ottawa District fronting on the Ottawa River. As he was to realize later, McDonald erred in his effort to gain financial stability through land acquisition; in Upper Canada unimproved land was one of the cheapest of commodities and usually proved a poor medium for speculation. By 1823 only slightly over £1,100 remained in his Montreal account.[15] Though he had begun installment payments on 20 shares of Bank of Montreal stock in 1817, valued at £1,000, it was becoming obvious to McDonald that he could expect little immediate return from either the bank stock or land speculation and that he would soon need a new and substantial source of income.

In May 1823, though married "according to the customs of the country" and presumably living with his wife Nancy at Gray's Creek, McDonald married again, this time to a white woman, Amelia, niece of the relatively wealthy Hugh McGillis who had retired as a North West Company partner to Williamstown. Whether or not McDonald's sudden decision to fly in the face of convention and marry for a second time was the result of a conscious effort to improve his financial position will probably never be known with certainty, but the marriage did create problems for the headstrong McDonald. Less than a year after his marriage he sold his home and 150 acres surrounding it to his eldest daughter, Eliza, and her husband, John Duncan Campbell, also a retired North West Company partner and a personal friend of McDonald.[16] McDonald left Inverarden, probably in the summer of 1823, and after a brief stay in Williamstown, moved with his second wife to a house immediately to the east on his remaining 700 acres. It seems probable that Nancy McDonald, who did not die until 1856, remained with her daughter and son-in-law at the house John Mcdonald had built for them in 1816. One can well imagine the animosity which developed between the two families, living as they did in such close proximity to each other. However, McDonald's social peers seem to have largely accepted his rejection of his first wife; two of Cornwall's most prominent inhabitants, merchant Guy Carleton Wood and Clerk of the Peace James Pringle, signed a £200 bond indicating that there was no earlier contract to impede the second union.[17] Yet Mcdonald did not emerge completely unscathed from this episode. In 1826 he was forced to decline nomination as a Presbyterian

church elder,[18] probably because of the quiet pressure of his fellow Scots despite the fact that with his Montreal social connections he had become one of the church's chief benefactors. Certainly McDonald had not lost that stubborn determination which had served him so well in the Northwest. McDonald's second marriage did not bring any immediate improvement in his finances although he was able to use the McGillis connection many years later to save the farm from his creditors.

The method which McDonald finally hit upon to solve his money problems was quite in keeping with his position as a country squire. In 1826 he began to bring in tenants to farm parts of his estate, now known locally as Gart. Two of the articles of agreement, signed late in 1825, have been preserved and they shed a good deal of light upon McDonald's style of life and his relationships with his subordinates.[19] The tenants, described as labourers in the agreements, were granted the right to farm specific parts of the estate for a set term of years, usually five or seven. McDonald provided them with farmhouses and barns, as well as livestock and agricultural implements, and reserved the right to dispossess them if they failed to care for their trusts in a "farmer like manner." It was the tenant's responsibility to clear any forested land, and crops and stock increases were to be divided equally between the two parties on an annual basis. At the end of the five- or seven-year term the tenant was to return to McDonald the land, buildings, implements and stock; any improvements made to the farms during the period of the agreement accrued to McDonald, not the tenants. By 1827 McDonald claimed to have 62 individuals living upon his farms.[20] By this tenant-landlord arrangement McDonald received annually a surplus of agricultural produce which he could sell to satisfy his material needs as a genetleman, and each year he could be assured that his property would rise in productivity and value as a result of his tenants' improvements. His tenants obtained a subsistence living, experience in farming and, depending upon climatic and agricultural conditions, some slight savings for the future.

McDonald's second marriage was short-lived. After bearing four children, three of whom would live to maturity, Amelia died giving birth to twins in 1830. McDonald was to spend the remaining 36 years of his life as a widower. By 1830 the male offspring of his first marriage were established and on their own; William was now a surveyor living in the Gaspé and a second son, Rolland, was soon to be a lawyer. Eliza was married and living at Inverarden while Agnes and Magdalene, 24 and 14 respectively, remained with their father. McDonald also faced in 1830 the added financial burden of raising and educating his three sons by Amelia: Duncan, aged five, John, four, and De Bellefeuille, two. The prospect of raising a second family when almost 60 years of age might have daunted a lesser man, but McDonald appears to have provided as well for his second family as he had for his first. Still, the expenses involved coupled with the costs of maintaining his situation as a gentleman played havoc with his now limited sources of income. McDonald refused to curtail his expenditures and continued to speculate in land. The inevitable result was the gradual accumulation of debts which threatened to overwhelm him in the 1840s. He received a good deal of assistance from Rolland, whose law practice had prospered and who served as MLA for Cornwall from 1844 to 1847. In 1848 Rolland attempted to persuade his father, then in his late seventies, to sell the family

estate and move in with one of his children. In the minds of most men, no stigma would have attached to second retirement but, true to his character, McDonald refused even to consider Rolland's suggestion. He had come to view Gart almost as an extension of himself and in his will would insist that the estate not be divided. He left Gart to his youngest son, De Bellefeuille, with the understanding that he would provide for brothers John and Duncan. In 1849 John McGillis, brother of Amelia and McDonald's brother-in-law, paid all of McDonald's outstanding debts to save Gart for his nephews. For the last 16 years of his life John McDonald was relatively free of financial worries and was able to concentrate upon those interests, political and social, which had occupied much of his time since his arrival at Gray's Creek 34 years earlier.

McDonald and Local Affairs

John McDonald was never interested in a political career for himself; perhaps he realized instinctively that he could never succeed in a milieu requiring tact, subtlety and compromise. He did serve as a justice of the peace and, on occasion, as chairman of the Court of Quarter Sessions of the Peace for the Eastern District between 1821 and 1855.[21] The position was an appointive one and the court dealt with local administration and minor criminal cases. Between 1833 and 1844 McDonald was also the judge for the Eastern District's Surrogate Court, which granted probates of wills and letters of administration within the district.[22] The records of the latter body have not been found, but the minutes of the quarter sessions occasionally reveal glimpses of McDonald's inherent social and political conservatism. If McDonald never sought elective office, he did have interests to forward or protect. As a gentleman, a retired North West Company partner and a relatively wealthy man, McDonald in 1816 was immediately accepted into Cornwall's small and exclusive circle of prominent, powerful individuals. Even though he retained an account with a major trading house in Montreal until at least 1830, he also established accounts with William Mattice and Philip Van Koughnet, both important local merchants. Archibald McLean, a Cornwall resident and from 1837 to 1862 a judge of the Court of Queen's Bench, was not only a close personal friend but also apparently a partner in land speculation and finally a creditor of McDonald. McDonald also developed a friendship with John Beverley Robinson when he was attorney general of Upper Canada. McDonald in 1827 enlisted Robinson's aid in an unsuccessful bid to purchase a small island, then part of the St. Regis Indian Reserve, in the St. Lawrence in front of his farm. McDonald complained to the attorney general: "I have never got one inch of Soil from the Crown, tho' I have added by discoveries many thousand Miles to it," and closed with the lament: "We poor North Westers are Out casts - We get neither grant nor emolument from our country - no - not even a sod to lay our Heads on."[23] McDonald, ever enthusiastic and vigorous in the pursuit of his own interests, usually viewed the world in clear-cut shades of black and white.

When Rolland McDonald unsuccessfully contested the assembly seat for Cornwall in 1841, his father enthusiastically entered the fray. Following his defeat, Rolland wrote to his father stressing that the important object now was to work for the following election, but to do so quietly. He admonished his father that "there must be no hurry in forcing people....this must be done as it were of itself and not by any seeming efforts - the election must seldom if ever be talked about."[24] From the tone and content of Rolland's letter of advice one suspects that John McDonald's electioneering style was perhaps a little heavy handed even for the 1840s. Whether or not his advice was followed is not known, but Rolland was successful in the 1844 election.

McDonald on the Northwest

McDonald's political involvement was not confined to personal or local issues. When the politicians and the populace of Canada West began to cast covetous glances in the late 1850s at the great expanse of territory controlled by the Hudson's Bay Company, McDonald did not hesitate for a moment in offering his views on what was a very complex and multi-faceted issue. When a British parliamentary committee was established to inquire into the affairs of the Hudson's Bay Company in 1857, McDonald wrote to Edward Ellice, deputy governor of the company and a committee member, and to Chief Justice William Henry Draper, a Canadian witness before the committee. McDonald displayedr an amazing grasp of the economy and ecology of the West and was optimistic about its future; however, in typical fashion he paid scant attention to divergent opinions. He wished to see the exclusive fur trading privileges of the Hudson's Bay Company continued in the territories north of the Saskatchewan River for he feared that competition would lead first to the decimation of fur-bearing animals and then to the economic collapse of those Indian tribes who depended upon trapping.[25] He advocated the creation of an Indian reserve in the northern territories to help them maintain their traditional way of life.[26] McDonald also favoured controlled but large-scale immigration into the southern parts of the Northwest including the Saskatchewan and Red River valleys. Unlike many of his contemporaries, he believed that the vast expanse of the prairies would prove to be good grazing and farming lands.[27] These areas, now largely denuded of fur-bearing animals, he felt were no longer of use or interest to the Hudson's Bay Company; however, he did foresee the need to preserve the vast herds of buffalo to insure both the future of the plains Indians, and an adequate supply of pemmican for the fur trade.[28] McDonald also suggested the construction of a railway through British territory to the Pacific Ocean to accomodate the expected influx of settlers, a concept which the much younger Edward Ellice viewed as a wild fantasy.[29] Though solicitous of the Indians' welfare, McDonald brushed aside the interests of the Red River settlement with the words: "of course we will govern Red River & establish there what Gov't we please in accordance with our Laws in Canada."[30] McDonald later came to the conclusion that Canada could not manage such a vast territory as the Northwest; his suggestion then was that three colonies be set up directly under British supervision.[31] McDonald did not

live to see the acquisition of the Northwest, but some of his suggestions and prophesies came to pass, and some of his fears were realized. It is difficult to assess what impact, if any, McDonald's views had upon the final disposition of the western lands. A relative by marriage and MLA for Vaudreuil, Robert Unwin Hardwood, solicited his advice when a group of Toronto businessmen petitioned the Assembly in 1858 to incorporate the North West Transportation and Navigation Company.[32] McDonald pointed out that the new company could not possibly generate sufficient capital for the task at hand and he was proved correct; the company received its charter but produced no results.[33] In his last letter to McDonald, Ellice wrote: "I acknowledge, merely to thank you for your letter....I answered your former ones more from respect for an old North Wester than with any intention of entering into a controversy."[34]

His Last Years

In reading McDonald's lucid pleas for the protection of the native peoples and his enthusiasm for a railway to the West Coast, it is difficult to keep in mind that these were the ideas and views of a man in his late eighties; however, it was not long before McDonald's health began to crumble under the weight of his advancing years. By 1859, three years after the death of his spinster daughter Agnes, ill health forced him to return temporarily to Inverarden, which he had built over 40 years earlier, and to the care which his daughter Eliza could provide. McDonald had often found it difficult to get along with others; time did not mellow his personality. He began to find fault in his children and grandchildren. As soon as he was able, McDonald left Inverarden and returned to the security of his beloved Gart. A photograph of McDonald taken by William Notman in 1863 reveals a gaunt, severe and uncompromising old man - a man who had perhaps lived beyond his time (see Fig. 4). In his last few years he seems to have felt that only his youngest son, De Bellefeuille, had not abandoned or disappointed him. McDonald died on 25 January 1866 and was buried in the family graveyard on a hill overlooking Gart and Inverarden. Ironically, De Bellefeuille mortgaged the family estate in 1872 and by 1878 Gart was in the hands of the Molson's Bank. In 1970 McDonald's remains and those of members of his family were reinterred in a public cemetery near Cornwall. His name on the gravestone is misspelled.

Inverarden: A Problem of Nomenclature

Before the construction and later modifications to McDonald's home are analysed in detail, an examination of some of the names traditionally associated with the house is required. Historical research conducted for the Inverarden Restoration Project indicates that some of these names may be historically inaccurate. Marion MacRae and Anthony Adamson, for example, refer in their pioneering study of domestic architecture in Upper Canada, The Ancestral Roof, to the construction of "Inverarden" for John McDonald.[1] "Inverarden" would appear to be a 20th-century misspelling of "Inverardine," the name by which the house was known in the last quarter of the 19th century. Similarly, William Stewart Wallace and other secondary sources refer to John McDonald as "McDonald of Garth," after the family estate, Garth, where he was born, to distinguish him from other John McDonalds.[2] Yet McDonald was nicknamed "le bras croche" by his fellow fur traders and he himself called his birthplace "Gart," not "Garth."[3] The inattention of 19th-century writers to details of spelling is well known to historians, but does not seem to explain this particular case. The documentary material uncovered indicates that McDonald was consistent in his use of "Gart" rather than "Garth." The question of spelling is important because it appears from the material available that Inverarden was known locally as Gart during the first decade after its construction in 1816.

According to C. Blackie's Dictionary of Place Names, "Garth" comes from the Teutonic and Scandinavian for an enclosed place, either for crops or animals, and gradually came to mean a farm; it is often written as "Gart" in Scotland and Ireland. There is a Garth estate near Aberfeldy, Perthshire, Scotland, which includes the ruins of Garth Castle (ca. 1380), reputedly the ancestral home of the McDonalds of Garth.[4] John McDonald, writing in the family bible about 1856, gives his place of birth as "'Gart', Callander [sic]."[5] In his autobiographical notes written in 1859, McDonald states that his father "lived at Gart near Callander [sic]."[6] He also notes in passing that his grandfather had suffered a blow to the head at the battle of Culloden (1745) and thereafter "had occasionally the loss of his reason, in one of those paroxysms he sold the family property for a song."[7] It seems probable that Mcdonald's grandfather sold Garth and that his father purchased a lesser estate which he called Gart, possibly a diminutive of Garth. As Aberfeldy and Callendar are 35 miles apart, it seems unlikely that the references would be to the same geographical locations in Scotland. The important point is that all the citations in McDonald's known correspondence are to Gart, not Garth. It may be quite acceptable

to refer to "McDonald of Garth" as a modern recognition of his ancestral ties, but his usage and that of his friends and associates were invariably "Gart." It was not until late in the 19th century, and long after McDonald's death, that "Gart" was replaced by "Garth."

McDonald used the term "Gart" to describe his father's home[8] an his own though it was also used on occasion to distinguish him from othe John McDonalds. In his correspondence McDonald was usually careful to indicate his own location. From his first arrival in eastern Upper Canada, McDonald lodged with a local farmer, Robert Colquhoun. His receipts for the spring of 1816 are dated from "Colquhoun's Farm" or "Charlottenburg [sic]," the township in which Colquhoun's farm was located.[9] His first correspondence from his new home, whether letters or receipted accounts, are simply dated from "Gray's Creek."[10] It is not until March 1817 that McDonald is referred to in one of his accounts as "John McDonald Esq. of Gart," and here Gart may be a form of identification rather than a geographical expression.[11] The first definite reference to Gart as the name of McDonald's house occurs in December 1819 as the return address of a letter from Archibald, McDonald's brother, to Lieutenant Governor Maitland; Gart was also the address used by a friend of McDonald in a letter dated 6 January 1820.[12] In correspondence written between 1824 and 1866 when McDonald was residing in a house immediately to the east of Inverarden, he used "Gart" in his letterhead when writing to relatives or close friends, and "Gray's Creek" when addressing those he knew less well. No personal letters to intimates are known to exist for the period 1816-23. Though the exact date of McDonald's departure from Inverarden is not known, he probably did not live in the house after his second marriage in May 1823. In the following year he sold the house and surrounding property to his daughter Eliza and her husband John Duncan Campbell.[13] In the baptismal records of two of their children, entered in 1825 and 1826, Eliza's husband is referred to as "John Duncan Campbell Esq. of Gart in the Township of Cornwall."[14] Though under different ownership, McDonald's first home seems to have retained, locally and for a time, its original name "Gart."

When McDonald moved next door to the Campbells, probably shortly after his marriage in 1823, he called his new home Gart and one suspects that gradually the name which had always been associated locally with McDonald came to be connected with his current home rather than that which he had had built in 1816 and which was now occupied by Campbells. The first known reference to "Garth" occurs in 1887 in Robert Campbell's unreliable A History of the Scotch Presbyterian Church, St. Gabriel Street, Montreal; Campbell includes a brief biography of "John Macdonald, [sic] of Garth" in his study. In 1890 L.-F.-R. Masson published a mutilated version of the autobiographical notes of "John McDonald of Garth." In reproducing one of McDonald's letters Masson took the liberty of changing the original letterhead from "Gart, Grays Creek" to "Garth Gray's Creek."[15] This is probably the manner in which the family reference to "Garth" came to be the accepted spelling for McDonald's home, "Gart."

A grandson of John McDonald, Archibald de Lery Macdonald, was active as a lawyer and an amateur historian in the 1920s and 1930s. He collected a good deal of McDonald correspondence and donated it to several repositories in Ontario and Quebec. He also lobbied to have a

museum established to display artifacts related to the Nor'Westers. Needless to say, he was particularly interested in the career of his grandfather, John McDonald. A newspaper article, "Macdonald of Garth; last of the old Nor'Westers," which was probably written by Archibald in 1934, refers to the estate "called Garth,"[16] as does another article in the Montreal Daily Star of 9 November 1935 which appears to have been based in part on an interview with Archibald. Yet in a letter dated 27 January 1936 to the Montreal Gazette, Archibald carefully distinguished between "John Macdonald of Garth" and "Gart House." By the mid-1930s, despite Archibald's personal accuracy, the name "Gart" had disappeared and "Garth" now referred not only to McDonald, but also to his second home at Gray's Creek. His first home, built in 1816 and now being restored by Parks Canada, had come to be known as Inverarden.

The history of the name "Inverarden" is neither as long nor as involved as that of "Gart," but, being the present name, is of even more importance. Very little Campbell family correspondence has been uncovered, but that which does exist indicates that McDonald's first home at Gray's Creek had no name for almost 50 years after "Gart" came to be associated with his second house, probably in the late 1820s. The name next associated with the house, "Inverardine," first appears in 1872 in connection with James Reid Campbell's trip to London and his effort to claim the earldom and the estates of the Breadalbane Campbells whose incumbent line had died out.[17] Campbell returned to Canada unsuccessful. No corroborating evidence has been found in the available secondary sources on Scottish history, but it seems likely that "Inverardine" is in some way connected with J.R. Campbell's odyssey and more specifically with the Breadalbane Campbells. As was the case with McDonald's usage of "Gart," the Campbells were consistent in their spelling of Inverardine - at least during the 19th and early 20th centuries. There are references in the Campbell family bible dated 1876 and 1887 to a birth and a death "at Inverardine."[18] Eliza Campbell, who lived in the house from her marriage in 1822 until her death in 1890, used "Inverardine" as a letterhead in an 1883 letter,[19] as did Mary Josephine, wife of James Reid Campbell, in a letter to Archibald de Lery Macdonald dated 1888.[20] "Inverardine" is also used in an 1890 obituary of Eliza Campbell.[21] The obituary actually states that John Duncan Campbell after his marriage in 1822 to Eliza "settled on his estate of Inverardine, near Gray's Creek," but this contradicts the known evidence. Lt. Col. W.J. McDougald, who as a child during the summers of 1915-17 lived at the house with his father, Senator Wilfred McDougald, stated recently that "the house you mention was known to me only as the 'Campbell House.'"[22] The last known reference to "Inverardine" occurs in 1927 as the description on the back of a photograph of the house.[23] The earliest reference uncovered to date to "Inverarden" appears in a newspaper article published in 1934 and possibly written by Archibald de Lery Macdonald.[24] The article contains references to McDonald's estate of "Garth" and to nearby "Inverarden," and may well be the starting point for the current usage. Though one descendant has stated that her father, James Ellis Campbell (1889-1964), insisted upon the spelling "Inverardine,"[25] the house built by John McDonald in 1816 and is now known locally and in secondary sources as "Inverarden."

From the fragmentary evidence available it would appear that the domestic structure now being restored by Parks Canada was originally known as "Gart," a name which gradually came to be associated with a house just to the east after the original occupant, John McDonald, moved there in the mid-1820s. It also appears that James Reid Campbell renamed the house "Inverardine" in the early 1870s and that this name was gradually corrupted into "Inverarden" by the mid-1930s. "Inverarden" is the current usage.

Inverarden: Construction and Modifications

Initial Construction

Existing McDonald correspondence offers no clue as to why he chose to settle where and when he did. One can only surmise that after a year and a half of "gaiety, amusements and feasting"[1] McDonald, then in his mid-forties, was ready for a less hectic and more sedentary existence. As mentioned in the opening chapter, McDonald was but one of many retired North West Company fur traders who chose to settle in the Stormont and Glengarry counties area. McDonald, like the rest, was probably influenced by the large Scottish population there and by the area's proximity to Montreal with its social and business connections. The Gray estate, part of which he purchased, was in the joint possession of two absentee landlords in 1815; McDonald appears to have learned of the property being available through Father Alexander Macdonell. Macdonell had arrived in Glengarry County in 1804 with 1,100 Highland Scot Catholics and he remained an influential figure in the Scottish community throughout his life. No doubt McDonald, who was enthusiastically bigoted against Catholics,[2] came to know Macdonell through their mutual acquaintances, the Scottish partners of the North West Company, most of whom were also Roman Catholics. Macdonell in fact signed an agreement to purchase the land in October 1815,[3] but for some reason the deal fell through and was never registered in the Stormont County land registry office. On 8 May 1816 McDonald paid the substantial sum of £1,600 for 750 acres of land, the eastern half of the original Gray estate, fronting on the St. Lawrence at the mouth of Gray's Creek and occupying the very southeast corner of Stormont County.[4] His purchase consisted of lots D in the first, second, and third concessions (600 acres), the eastern half of lot C, first concession (100 acres) and the eastern quarter of lot C, second concession (50 acres), all in Cornwall Township.

While he did not always prove to be a cautious businessman, McDonald did visit the Gray's Creek estate before making his purchase. His 750 acres probably contained a substantial amount of cleared land, now somewhat overgrown after being 12 years in the hands of absentee owners. Any structures which may have existed from the tenure of James or Robert Gray would probably have been in poor condition (see 'The Inverarden Property, 1784-1816' in "The Scottish Connection" for a discussion of the probable state of the land in 1816). At the beginning of March 1816 McDonald purchased vegetable seeds in Montreal[5] (see Fig. 5 for the account listing these seeds), probably for his new garden, and in mid-April was boarding with Robert Colquhoun whose farm

fronted on the St. Lawrence just east of Gray's Creek in Charlottenburgh Township, Glengarry County.[6] If the purpose of McDonald's visit was to reconnoitre the area, he appears to have been satisfied with what he found. He purchased a plow from a local farmer at the end of April, possibly to enable a hired man to begin his garden plot, before returning to Montreal to sign the purchase papers for his land.[7] If McDonald was satisfied, so too were his new neighbours. Late in April the local magistrates, gathered at Cornwall as the Court of Quarter Sessions for the Eastern District, allocated £50 to open a road along the St. Lawrence between Gray's Creek and the town of Cornwall.[8]

By 22 May McDonald had returned to Gray's Creek from Montreal and was in possession of his land.[9] It would also appear that the construction of Inverarden had begun by this time. A bill from a barely literate blacksmith dated 24 May includes charges for "Alterin An Augar [auger]," possibly used in construction or in locating a well, and for repairing a chisel, possibly used to shape the rubble stone for Inverarden's walls.[10] As early as 10 June McDonald was signing his notes from "Gray's Creek" rather than "Colquhoun's Inn" where he had been boarding.[11] McDonald's major account ledger for 1816 shows a number of substantial disbursements totalling £4,200.[12] Even if one deducts the cost of the land (£1,600), McDonald spent £2,600 in one year; much of this figure most certainly represents money spent on labour and material for Inverarden. Unfortunately the ledger entries indicate only the amount, and usually but not invariably the date, of the note; the names of recipients are given in some instances, but the entries do not indicate the purposes of expenditures. Mcdonald paid Alexander McKenzie of Williamstown £140 in June 1816; this was probably the same McKenzie who in 1804 had contracted as a master mason to construct the first stone Presbyterian church at Williamstown.[13] Other names are given, quite likely also local contractors or artisans employed in the construction of Inverarden, but no records indicating their professions have been found.[14] Similarly, no documentary information has been found regarding construction material.

Work on the house appears to have been well advanced by late July when McDonald received a charge for freight for a "case of window glass" from Donald Duff, possibly a Montreal merchant and forwarder.[15] It would seem that Inverarden was originally heated by some form of stove system as well as by the four fireplaces; McDonald was billed in late October for 49 lengths of unspecified size of stove piping and 15 pipe elbows, and for repairs or alterations to same.[16] A stovepipe hole, now sealed, in the wall between the central hall and the dining room and another in the flue of the dining-room fireplace indicate that there was probably a stove in the hallway, to protect against the cold from an open front door. The rest of the central block of the house was probably heated by the four fireplaces, three on the main floor and one in the basement kitchen.

It is not known for certain where McDonald's half-breed wife Nancy, nēe Small, and each of their children lived while Inverarden was being built. Eliza, their 12-year-old daughter, was at a boarding school, probably in Montreal.[17] Presumably their two sons, William, aged 15 and Rolland, aged six, also remained at, boarding school in Montreal. Nancy had joined her husband and they were living at Inverarden by 8

October. On that date Magdalene, their fifth and last child, was born to them at "Gray's Creek"; she was baptized early in December in Trinity Anglican Church, Cornwall.[18] At the end of 1816 McDonald was billed for three feather beds, bedspreads and sheets, and candles - all items which he would hardly have required had he yet been boarding with Robert Colquhoun.[19]

Inverarden's two wings were not part of the original structure built in 1816. The inner walls separating the dining and drawing rooms from the bedrooms in the two wings are each almost three feet thick.[20] This suggests that these inner walls were originally exterior end walls; the interior walls separating, for example, the central hall from the dining and drawing rooms are only about six inches thick. The results of a structural examination of the building supervised in the summer 1976 by Restoration Officer J. Zukowski bolster this hypothesis. Both the floor and interior roof construction indicate the wings to be additions constructed perhaps up to five or ten years after the original structure.[21] Two pieces of documentary evidence support this conclusion. A list of vegetable seeds purchased by McDonald in March 1817 contains what appears to be a rough sketch of Inverarden and surrounding land (see Figs. 6, 7 and 8).[22] The relative dimensions of the rectangle representing Inverarden correspond roughly in proportion to the actual dimensions of Inverarden without its wings. A survey of the land immediately to the east of John McDonald's property, prepared sometime in 1821, contains a tiny sketch (approximately 1/8 in. by 1/8 in.; (see Fig. 9) labelled "Jno McDonald Esqr." which is clearly Inverarden without its wings. In the sketch the chimneys, now located on either side between the central block and the wings, are shown as being at the ends of the house. The accuracy of this sketch contained in the survey by "McDonald and Browne" (no first names given) could be questioned since the survey does not actually pertain to John McDonald's land; however, John McDonald's eldest son, William, then 20 years old, was a licensed surveyor and working in the area at the time;[23] he was almost certainly the co-author of the 1821 survey. As William was living with his parents at Inverarden in 1821, this hypothesis would both explain the presence of the sketch and verify its accuracy. In addition, a William Browne of Mille Roches was a friend of John McDonald and a patron of young William.[24]

Inverarden until at least 1821 was a rectangular one-storey structure with an attic and a high basement, and measured approximately 44 ft. by 34 ft. Prior to the addition of the wings and the consequent change in the roof line, the house boasted a Georgian symmetry both inside and out. The front façade had a central door with sidelights and fan, and two windows on either side. Two chimneys rose from each end wall and the exterior walls consisted of random-coursed rubble stonework, quite probably with a roughcast finish for aesthetic reasons. Window and door openings were edged with brick. The main floor consisted of large dining and drawing rooms (20 ft. by 15 ft. and 18 ft. by 15 ft. respectively) separated by ample hall and an elegant staircase; two smaller rooms, probably bedrooms, formed the rear section of the main floor which was heated by three fireplaces. The excavated basement contained kitchen and larder facilities and several rooms probably used as servant's quarters. The attic was not divided into rooms; it served as extra storage space or remained vacant.

Inverarden's Wings

It has not proven possible to pinpoint with accuracy the date at which Inverarden's wings were added though it can be stated with some confidence that they did not exist prior to 1821. However, some documentary and some circumstantial evidence regarding ownership and occupancy of the house in the period 1820-40 has been collected and from it a probable date of construction can be deduced.

In January 1822 there occurred the marriage of Eliza, McDonald's eldest daughter, and John Duncan Campbell, his long-time friend who had retired as a North West Company wintering partner in the previous year.[25] An obituary of Eliza Campbell indicates that she and her husband lived at Inverarden following their marriage.[26] Her parents, John and Nancy McDonald, lived there too, of course, and so apparently did at least one grown son, William.[27] In the same year Elizabeth, Eliza and John Campbell's first child, was born. Thus by the latter part of 1822 five adults and at least one child were living at Inverarden.

Though he had married "according to the rites and ceremonies of that country [the Northwest]"[28] in 1799, McDonald married for a second time on 23 May 1823 while his first wife was still alive. His own entry in the family bible states that following the wedding they "removed to W[illia]mstown [Glengarry County]"[29] where his new wife, Amelia McGillis, niece of Laird Hugh McGillis, had lived with her family. It seems likely that McDonald's first wife, Nancy, who did not die until 1856, continued to live with her daughter Eliza at Inverarden. On 11 March 1824 McDonald sold Inverarden and the lot upon which it sits (the east half of lot C, first concession, Cornwall Township; the east quarter of lot C, second concession, was also included in the agreement, making a total of 150 acres) for £5 to Eliza.[30] Later in the same month John, Amelia, and his son William, were living at "Gart" or "Gray's Creek," presumably in a house on lot D just to the east of Inverarden.[31] McDonald called both Inverarden and his new home "Gart"; that is, "Gart" was where he was. Needless to say, this change caused confusion in the minds of local inhabitants. In an 1826 baptismal record entry John Duncan Campbell is described as living at "Gart in the Township of Cornwall."[33]

In 1824, the year of the house transfer, the Campbell's second child was born, as was the McDonald's first. By 1829, according to a local census, the Campbell family numbered nine, the McDonald household eight; both figures include servants.[34] A survey dated 1840 clearly shows John McDonald as living at "Gart" on lot D, first concession, Cornwall Township (see Fig. 10).[35] The sketch contained in this survey is the only definite information known to exist about McDonald's second "Gart" although he does refer to it in the early 1860s as "the Old House" in a comparison with Inverarden.[36] It is possible that McDonald's second "Gart" was a renovated structure dating back to the Gray's occupancy, but this is purely speculation. According to a descendant, this house burned down shortly after McDonald's death.[37] The 1851 census, the earliest complete personal census to survive, confirms the geographical locations of the McDonald and Campbell families as being respectively lot D and the east half of lot C, first concession, Cornwall Township.[38]

It seems likely that the wings of Inverarden were added between 1821, following the production of the McDonald and Browne sketch and possibly in anticipation of the January 1822 marriage of Eliza and J.D. Campbell, and May 1823 when John McDonald remarried and left the house. This is the one period when the very pressure of population, that is, the presence of two families, would have warranted such expansion. An analysis of the financial situation of the two families during the 1820s supports this hypothesis.

As noted above, John Duncan Campbell, like McDonald, had been a wintering partner in the North West Company; he retired in 1821 presumably with some savings though he was not likely as wealthy as McDonald had been in 1814. It is quite possible that Campbell expended these savings in the construction of Inverarden's wings, especially if he knew he would soon be living there. Certainly by 1828 he was sufficiently short of liquid capital that he found it necessary to mortgage his home and farm for £50.[39] It seems unlikely that he would have been able to afford the costs of construction by this date. When Campbell died in 1835, Eliza found herself in straitened circumstances and would definitely not have had the means to add to her home.[40] Nor did McDonald have the money at his disposal to incur such costs; by the end of 1824 he had but £1,000 left in his Montreal account.[41] The following chart indicates both the amount of money spent and that remaining in his Montreal account with McTavish McGillivray and Company for each year between 1815 and 1825.[42] McDonald's large expenditures on the Gray's Creek land and on the central block of Inverarden in 1816 are quite noticeable.

Year	£ spent	£ remaining
1815	829	10,220
1816	4,229	6,461
1817	1,844	4,971
1818	1,124	4,124
1819	1,535	2,825
1820	600	2,424
1821	936	1,664
1822	429	1,371
1823	363	1,137
1824	244	1,002
1825	258	926

The 1821 sketch indicates that the wings were not added prior to that date, but it does not give the specific month in which the sketch was made. The only high annual expenditure incurred by McDonald after 1820 was the £936 in 1821. That year McDonald issued £300 to himself (in 1820 he had spent only £30 in this manner). 1821 was also the date of John Duncan Campbell's retirement. It seems quite possible that in the summer or fall of 1821 McDonald and Campbell, anticipating the coming union, pooled their resources to build the wings. Less likely, though still a possibility, McDonald may have paid for the work himself; the wings, which are less finely finished than the centre block, probably could have been built for about £300. To recapitulate, the 1821 sketch dates the wings as post-1820. The occupancy rate of the house and the

financial situations of both families indicate the period from 1821 to mid-1823 as the most likely for the construction of the wings.

Inverarden Structural Changes

Very little documentary evidence, either in the form of accounts or correspondence, has been found pertaining to the Campbell family whose members occupied Inverarden in uninterrupted succession from the mid-1820s until 1965. In addition the most useful local records including assessment rolls for the 19th century have not survived. Though a paucity of information has precluded the development of a detailed description of structural changes for the period, the author has gathered together some data which, it is hoped, will serve as guideposts during the restoration process. Where possible the following discussion centres upon and offers possible explanations for known structural changes based upon existing documentary evidence.

The earliest surviving agricultural census for Cornwall Township was prepared in 1861 and it gives some peripheral data on Inverarden and its environs.[43] At that time Eliza Campbell's farm was valued at $1,780 and 100 of its 150 acres were cleared though only 47 acres were sown with crops in 1860. (For more detailed comments on the changing topography and landscape of Inverarden, see "Inverarden: Landscape.") The census mentions farm implements or machinery worth $150 as well as six steers, six cows, 12 sheep, and seven pigs. Presumably one or more stables, barns, or outbuildings would have been required to house this livestock, but nothing is known of the location or features of said buildings. Eliza also owned three horses valued at $150 and two pleasure carriages worth $90. Again one would assume the existence of one or more outbuildings to house the animals and the carriages. The house was then occupied by Eliza Campbell, aged 58, and her children, Elizabeth, aged 38, James Reid, 36, and John Duncan Jr., 34; none of the second generation were married at this time. There were also at least two servants living at Inverarden in 1860.[44]

John McDonald, because of illness suffered in his advancing years, boarded with his daughter at Inverarden for much of 1860. In February 1860, prior to his removal from Gart, he wrote of possibly moving next door to Inverarden, presumably so that he could be better cared for. His suggestion was that "Mrs. Campbell's House by finishing off the upper part as it may be - into a passage and four rooms - would be a House to board with Mrs. Campbell [sic]."[45] It would seem that as late as 1860 the attic storey of Inverarden had not been partitioned into rooms. It is likely that it was still vacant or merely a storage space. McDonald's sojourn with his daughter and grandchildren was neither long nor pleasant. In a letter written from Gart on 1 January 1861 McDonald explained to his grandson, James Reid Campbell, why he had left Inverarden. Among his reasons were "the uncomfortable room open to an unholesome [sic] yard full of all Kinds of animals in Summer & the source of [smells?] - the moment the peep of day came - & in winter cold & the noise from the Kitchen The moment the Serv'ts got up - impossible to sleep."[46] It seems probable that McDonald's room was either that behind the dining room or the slightly larger one behind the drawing room. The first is directly over the basement kitchen while the second is closest to the basement stairs. It is unlikely that McDonald was

situated on the second storey where there are but two small dormer windows opening on the backyard. It is likely that the second-storey partitions which McDonald suggested be built in 1860 were in fact put up at a later date. His comments also tell us something of the landscape immediately north of Inverarden in 1860. The attic partitioning, or at least the initial phase, may have been connected with James Reid Campbell's marriage to Mary Josephine Burke in September 1875. James and Mary lived at Inverarden following their wedding; their children were born as follows: James Burke in 1876, John Duncan III in 1878, William Robertson in 1879 and James Ellis Burke in 1889 (see Fig. 11 for genealogies of the McDonald and Campbell families). The presence of a second family unit at Inverarden likely provided the impetus for at least the first stage of the attic partitions, which consisted of the creation of one small room in the front centre part of the attic (see room 2-02 in Fig. 12). The newspapers used to cover the walls of this room prior to the application of the first of many layers of wallpaper are dated 1873. However, it should be noted that John Duncan Campbell Jr. had left Inverarden to make his way in the world in 1858; he died, apparently by violence, at Blackfoot, Idaho, in 1890.[47] Elizabeth Campbell married a Charles Robertson in November 1875 and moved to Toronto where she died suddenly in January 1876.[48]

No documentary evidence has been found concerning the "curious design" of the front door's sidelights which, according to Peter Stokes, "almost indicates a later change, say 1835-40 when this design becomes common in the Upper St. Lawrence Valley." What Stokes describes as "a mid-19th century gable with segmented window [which] now interrupts the centre front of the roof" was likely added in the 1870s to provide light for the new attic room. In the same report Stokes mentions that "the front porch columns, are turned, rather crude and possibly replacements while floor and railing are all more recent and no earlier than 1890 probably."

Inverarden During the 20th Century

According to a reminiscence written probably in the 1940s by an elderly friend of the Campbells, Eliza passed her declining years "content to be withdrawn from the world," and spent much of her time in "her bed room (the back room off the dining room....)."[49] She died in November 1890 and by her will left Inverarden and its 150 acres to her only living son, James Reid Campbell. Tragedy struck Inverarden for a second time in 1890 with the death of J.R. Campbell's wife, Mary Josephine, aged 36. James was now a widower with the responsibility of bringing up three young sons, John Duncan, aged 12, William Robertson, 11, and James Ellis Burke, one; the eldest son, James Burke, had died in 1887 at ten years of age. The same contemporary reminiscing about this period wrote:

> Aunt Mary's early death (your grandmother [Mary Josephine Campbell, died 1890]) was a tragic loss to her children and I remember my mother's regret that she could not keep your father with us when he paid us a visit at 12 years [probably John Duncan Campbell who was 12 at the time of his mother's death]. He so wanted and needed

'mothering' but we had too few bed rooms and mother, left a widow....[50]

A great-great-grandson of John McDonald, Grant Campbell of Almonte, Ontario, informed the author that the three sons were raised in a rough and tumble manner by their father and a series of indifferent housekeepers.[51] One suspects that the house was not especially well cared for during these years either.

James Reid Campbell died in 1912 and left the house and property in equal shares to his three sons, then aged 34 (John Duncan), 33 (William Robertson), and 23 (James Ellis). During the three summers from 1915 to 1917 Senator Wilfred McDougald rented Inverarden, presumably as a summer retreat from the heat of Ottawa. He was accompanied by his young son, Wilfred Jr.[52] John Duncan and William Robertson continued to live on the farm, apparently in a smaller hired man's house behind Inverarden during the senator's stays.[53] A housekeeper, a Mrs. Crawford, also lived at Inverarden at this time.

In 1919 James Ellis Campbell sold his share in the property to John Duncan for $2,500. John Duncan retained ownership of the east half of the farm and William Robertson the west. The latterlived on the farm with his family after his marriage in 1919 and operated a small dairy from the 1930s until shortly before his death in 1951.[54] His widow resided at Inverarden and raised pedigree dogs until the property was sold to Chemcell Ltd. in 1965. From about 1926 when John Duncan Campbell married until 1961 Inverarden was occupied by two families.[55] W.R. Campbell and his family lived in the east side of the main floor and had use of two bedrooms on the west side of the attic. The west half of the ground floor was used by John Duncan Campbell and his family as a summer home (see Fig. 13 for room usage, circa 1926-61). The house remained vacant following its purchase by Chemcell. It was declared a national historic site in 1968 on the recommendation of the Historic Sites and Monuments Board and was acquired by the crown in 1972.

The House

Several changes were made by Senator McDougald during his three summers at Inverarden. He added a toilet in the attic and was probably responsible for the later attic partitions which consist of two walls running almost the width of the house and creating four rooms, each lighted by a small, original dormer window[56] (see rooms 2-01, 2-03, 2-04 and 2-06 in Fig. 12). W.R. Campbell installed the bathroom in the rear room of the east wing about 1919.[57] By 1919 a coal-burning furnace and a central heating system had been installed at Inverarden.[58] After about 1926 only the east half of the house was served by the central heating system; this was done because the west side of the house was used by J.D. Campbell only during the summer months.[59] At some time prior to 1965 the furnace was converted to oil.[60] Alterations made in the east half of the house by W.R. Campbell include a clothes closet (now removed) on the south wall of the south room in the east wing and the conversion of the room behind the drawing room into a kitchen. Figure 14, a photograph taken in 1967, shows some detail of this room including a stove, part of a ventilating system and part of the lighting system, all now removed.[61]

The earthquake which struck the Cornwall area in 1946 caused damage to at least one chimney, the rear west one, which had to be repaired immediately.[62] The existing shutters, now in storage, date back to at least 1915-17 although at some time prior to 1927 they were cut horizontally into equal sections (see Fig. 15).[63] The only other apparent exterior structural changes made since 1915-17 are the removal of the four chimney caps, repairs to the chimneys' brickwork, and the ad hoc repair of deteriorating stucco. In addition a series of three awnings which provided shade for the front porch circa 1915-30 have been removed (see Figs. 32 and 34). Mrs. William Campbell referred to the presence of a dumb-waiter connecting the basement kitchen with the first floor, but this detail is not in evidence now nor has the structural examination revealed it to date.[64]

Outbuildings

As noted earlier, no information is known to have survived concerning Inverarden's outbuildings in the 19th century; one can only surmise that a complex of such structures did exist. The earliest documentary evidence regarding Inverarden's outbuildings consists of aerial photographs taken in 1938 by the Department of Lands and Forests (now the Ministry of Natural Resources; see Fig. 16). In addition, a detailed survey of Inverarden and the surrounding land was prepared by the Department of Public Highways (now the Ministry of Transportation and Communications) in 1939 (see Fig. 17). Chemcell Ltd. also had aerial photographs taken in 1966 of their facilities being constructed northwest of Inverarden (see Figs. 18 and 19). These sources were augmented through interviews with members of the Campbell family and neighbours.

The outbuildings existing in 1938 included three hay barns, a cattle barn, a hired man's house and privy, a garage and storage shed, a tool shed with an attached hothouse, a milk house and several dog kennels (see Fig. 17). All these buildings were wooden and none appear to have been constructed earlier than the late 19th century.[65] Many of the structures pertained to W.R. Campbell's dairying activities which began in the 1930s, but the buildings may very well have predated this usage.[66]

Hay barn "A" in Figure 17 was a typical one-and-a-half storey frame barn with the boards applied vertically; it had a shingle, probably cedar shingle, roof. Like the other outbuildings, it was in a state of disrepair by 1966 (see Figs. 20 and 21). Hay barns "B" and "C" were both low one-storey structures with single-pitch slant roofs (see Figs. 17, 18, 19). The cattle barn to the north and west of Inverarden was, like hay barn "A," a one-and-a-half storey structure with vertical boards; it was roofed with large sheets, probably of tin (see Fig. 22). The hired man's house was a small one-and-a-half storey structure made of frame or possibly log construction. There was an entrance in both the north and south walls, and two windows in each of the east and west walls. The house had a fieldstone foundation and a single chimney (see Figs. 18, 21, 23 and 24).[67] The tool shed directly north of the house was a small single-storey frame structure painted white (see Fig. 18). The garage and storage shed to the east and north of Inverarden was also of frame and shingle construction. It was built by Senator

McDougald between 1915 and 1917 and, during his summers at Inverarden, served in part as servants' quarters.[68] McDougald also had one of the barns built during these years.[69] There were also several dog pens and runs on the property, all associated, of course, with Mrs. Campbell's raising of pedigree cocker spaniels (see Fig. 17).[70]

Of particular interest among the various outbuildings is the shed and ice-house extension on the north wall of Inverarden, only the outline of which now remains on the wall. The extension (see Figs. 25 and 26) was a makeshift structure. The exterior walls consisted of short and in some cases mismatched boards laid horizontally and the roof was covered with asphalt sheeting. The ceiling beams were quite large, indicating perhaps mid- to late-19th-century construction.[71] The extension had an entrance on its east side, with about six wooden stairs banked with handrails leading up inside the shed to the rear entrance of Inverarden. Just to the east of the stairs was a trap door in the floor of the shed leading down to the entrance to the basement kitchen.[72]

The remaining man-made structures on the immediate Inverarden property consisted of a water pump and pipe system, various fences, and a road. The water pump and pipe system brought water for washing purposes up from the river to Inverarden. The system was apparently used exclusively by J.D. Campbell and his family, so it was probably installed at the time of or shortly after his marriage in 1926.[73] The pump was located near the north edge of Highway 2 and just west of the driveway. It does not appear in the photograph of Inverarden taken from the south side of the highway in 1927 (see Fig. 28). The pipe ran up along the west edge of the driveway to the southwest corner of the house and thence east in front of the bay of the west wing and into the basement. A section of this pipe can be seen in Figure 27, a circa-1930 photograph of the front grounds. The system was still in existence in 1953.[74] It was dismantled at some time after that date, probably after 1961 when the family of J.D. Campbell ceased using part of Inverarden as a summer home.

Fences

It appears there once was a fieldstone fence, possibly topped by flat stones laid obliquely, at the front of the Inverarden property.[75] If such was the case, the fence was removed about 1918-19. By 1927 the front fence was purely ornamental; it extended only one segment, about 20 feet, on either side of the driveway entrance and was made of wood in a simple "X"-frame design (see Fig. 28). It is unlikely that even the foundations of either fence exist today as Highway 2 was widened in 1939 and probably obliterated all traces of fencing at the front of the property. In fact a small strip of the Inverarden property was purchased by the Department of Highways at that time. About 1930 a fence consisting of wooden posts and wire, probably wire mesh, ran in a north-south direction just to the south and west of Inverarden (see Fig. 29). It appears to have separated the front lawn area from the woods immediately to the west of Inverarden. North of the house another fence extended in an east-west direction, presumably separating the backyard area from the farm proper (see Fig. 18).[76] Another east-west fence consisting of fieldstone existed north of the outbuildings.[77] It likely was created by land clearance and delineated the beginning of

cultivation. A small fence enclosing a dog run existed just north and west of Inverarden until the mid-1960s (see Fig. 25).

Prior to 1966 the road which forms the entrance driveway and now ends at the east side of Inverarden extended northward and gave access to the property's farmland. The road ran between the hired man's house and hay barns "A" and "C" (see Fig. 18). The section beyond the outbuildings was obliterated by earth-moving equipment during the construction of Chemcell's facilities in 1966 (see Figs. 18 and 20).[78]

None of the aforementioned outbuildings and other man-made structures exist today. Following the purchase of the Inverarden property by Chemcell Ltd. and despite the company's efforts, both the house and its outbuildings were exposed to the depredations of vandals. In addition, all of the structures began to deteriorate at a rapid rate in the absence of any form of maintenance. In 1970 a fire broke out in one of the outbuildings and it was only with great difficulty that it was extinguished by the Cornwall Fire Department, using the water, pressure system and hoses of Chemcell Ltd. Fearful that Inverarden itself could burn next, Mr. R. Hollingsworth, Chemcell plant superintendent, ordered that all of the outbuildings, including the shed extension on the north wall, be systematically razed and burned. This was also done in 1970.[79]

Inverarden: Landscape

It is impossible to describe with any certainty the surrounding landscape at the time the main block of Inverarden was built in 1816.[1] It is known that Major James Gray had cleared part of his 1,500-acre estate and that he lived on that land, probably in relative comfort.[2] It is also logical to assume that both the cleared land and Gray's home and farm buildings were located relatively close to the major transportation route, the St. Lawrence River, just as was Inverarden itself. Unfortunately, one cannot be more specific than this. The two most logical locations for the Gray farm complex are the site of Inverarden, or the slightly more elevated land to the east on lot D. It is most likely that at least some of his land had been cleared prior to 1816 though it may have become somewhat overgrown in the 12-year period from 1804 to 1816 when it was in the hands of absentee landlords.

In his very first spring at Gray's Creek and while Inverarden was being built, McDonald planted his first vegetable garden. Its location is not known, but the garden contained peas, beans, turnips, cabbage, carrots, beets, onions, radishes, marrow, melons, pumpkins, parsley, and cress (see Fig. 5). In the following year McDonald planted a much larger and more varied vegetable and herb garden; he also seeded pasture land with timothy and clover (see Figs. 6 and 7 for details).

No documentary evidence is known to exist concerning any ornamental shrubs, flowers or trees which may have graced the property immediately around Inverarden in the early 1820s. Any flower beds planted by McDonald in his first years of residency would probably have been close to the house and would have been disrupted and partially destroyed by the addition of the wings. Flower seeds available in York (Toronto), Upper Canada, by 1819 and presumably in Montreal as well where McDonald made many of his purchases included mignonette, sweet pea, rose lupin, larkspur, nasturtium, coxcomb, balsam, china hollyhock, white brompton stock, scarlet ten-week stock, globe amaranthus, pink carnation, Indian carnation, sweet william and Convolvulus Majo.[3] Early in 1817 one Montreal nursery offered eight varieties of apple trees for sale,[4] while several years later another Montreal nursery advertised 11 types of apple trees, three varieties of grapes, as well as gooseberry and currant bushes.[5] It is not known if Inverarden had a grass lawn in front during McDonald's residence, but it is not an unlikely possibility. In 1823 a house near Kingston was advertised for sale in Montreal. It was described as having been built "in the Cottage style" and as being suitable "for the accommodation of a Gentleman's Family";

among its attributes was "a Lawn in front."[6] It is not known to what extent McDonald availed himself of the flower seeds and shrubs available during his years at Inverarden; however, it can be said that he was very interested in agricultural pursuits for after 1825 his income and his very livelihood depended upon his knowledge of agriculture and animal husbandry. In September 1830 he was one of a small group who petitioned Lieutenant Governor Colborne for financial aid for the newly created Agricultural Society of the Eastern District.[7]

The woods on either side of the entrance driveway frame Inverarden and control and channel the view of the St. Lawrence from the house. These same woods form a major component of the English Picturesque landscape of the site. It is not known if similarly placed woods existed during McDonald's tenure (certainly the individual trees do not appear to date back 160 years), but, representing as they do a particular style and period of landscape architecture, the woods have an intrinsic historical as well as aesthetic importance.

Another aspect of the original landscape which must be considered here is the question of a road along the shore of the river in front of Inverarden. The placid and easily navigable waters of Lake St. Francis in the St. Lawrence and the low and swampy nature of much of the riverfront land in Lancaster and Charlottenburgh townships were two factors which hindered the building of a road along the river through the Eastern District; however, a map of Cornwall Township, prepared in 1794 by William Chewett, shows a road running along the riverfront, as does another compiled in 1815 by hydrographic surveyor William Fitzwilliam Owen (see Figs. 30 and 31).[8] The latter map shows Robert Colquhoun's home and Glengarry House further to the east, but does not indicate the remains of Major Gray's house or outbuildings. There was also a bridge across the mouth of Gray's Creek when McDonald began building (see Fig. 31). The local magistrates allocated £50 in April 1816 "for the purpose of making the front road from what is called Colonel Gray's Creek, to the Town of Cornwall," an indication that the road had been, at best, barely passable prior to McDonald's arrival.[9] A sketch of Inverarden and its grounds drawn possibly by McDonald himself on his 1817 account for garden seeds shows a wide corridor leading from the house to the river (see Fig. 8). Similarly, a sketch of Inverarden on a survey prepared in 1821, probably by McDonald's eldest son William, who was then living there, shows a driveway running south from the eastern edge of the house to a road clearly labelled "From Kingston to Montreal" (see Fig. 2). If the house and grounds are restored to the early 1820s, a driveway should be incorporated into the landscape design. The 1821 sketch indicates that part of the driveway was slightly east of the present-day road. This detail of the sketch was corroborated by archaeological research conducted in the summer of 1977.

The sketch of what seems to be Inverarden and surrounding grounds appears on the account for vegetable garden seeds purchased by McDonald in 1817 (see Fig. 8). The land around Inverarden is divided, presumably according to land usage given the contents of the account, into a number of parcels. There is a corridor, somewhat wider than the house, leading to the water and two or possibly three small areas immediately behind the house. Probably one of these areas represents the vegetable garden,

but none are identified, and no outbuildings are shown though they most likely did exist then. There is also a peculiar area extending to the west of the house, whose purpose is unknown. The 1821 sketch of Inverarden (Fig. 2) shows the house without its wings and its location on a small rise of land. Stylized trees surround Inverarden, suggesting a wooded setting, and in front of the house is what may be an indication of the orchard. Two strucures, possibly a house and barn are located in the southeast corner of lot D, near the waterfront and the mouth of Gray's Creek. These structures may date from Major Gray's occupancy. Part of McDonald's land on lot D is described in two 1825 agreements with new tenants.[10] Since McDonald had owned the east half of lot C as well as lot D just one year earlier, it seems likely that a general description of the one would fit the other as well. The articles of agreement refer to a number of fields including meadow and pasture land, wooded areas, and an orchard about ten acres in size; no relative locations are given. The documents also refer to an ongoing programme of land clearing. Structures mentioned as existing in 1825 include a house, two barns, stables and sheds. By the agreements, McDonald provided his tenant with "as many Milch Cows, Oxen - Horses, Sheep - Pigs etc as may be supposed the farm can maintain";[11] he also provided all necessary farm and dairy implements including carts. There was also a cider press on lot D. Presumably the land divisions, outbuildings and livestock on lot C, the land now owned by John Duncan and Eliza Campbell, were similar to those documented for lot D.

No further documentary data concerning landscaping has been discovered for the period up to 1861. The agricultural census prepared for Cornwall Township in that year has been preserved and it includes a good deal of information on Inverarden at mid-century.[12] The data pertains to the year 1860 and indicates that of the farm's 150 acres, 100 were cleared although only 47 acres were under crops that particular year; there were 50 acres of woods or wild land and two acres of orchard or gardens, probably the orchard which exists today. The crops included 12 acres of spring wheat (producing 100 bushels), three acres of peas (20 bushels), 30 acres of oats (700 bushels), two acres of potatoes (200 bushels), five bushels of carrots, and 16 tons of hay. Twelve sheep produced 30 pounds of wool and six milk cows 300 pounds of butter. The Campbells also owned six steers, seven pigs and three horses. The latter were valued at $150 and the remaining livestock at $314. The family also owned two pleasure carriages valued at $90. The farm itself was evaluated as being worth $1,780, the agricultural implements or machinery at $150. Presumably several barns, stables and outbuildings would have been required to house the livestock, farm machinery, and carriages, but there is no mention of structures in the census. An indication of the landscape immediately behind Inverarden comes from a remark made by John McDonald in a letter dated 1 January 1861. In describing his reasons for leaving Inverarden after a period of recuperation there in 1860, he writes of "the uncomfortable room open to an unholesome [sic] yard full of all Kinds of animals in Summer and the source of [smells?] - the moment the peep of day came."[13] It would seem that by 1860 the Picturesque English landscape of the front of Inverarden did not continue to the rear of the house.

Senator Wilfred McDougald, who lived at Inverarden during the summers of 1915-17 and who made a number of improvements to the house

and outbuildings, was an avid gardener.[14] He may have been responsible for planting the flowers and shrubs which lined the front of the house in these years, as well as the two ornamental trees which flanked the front entrance; he also had the front lawn kept neatly trimmed (see Fig. 15). His son Wilfred Jr., who was six or seven years old at the time, recalls "a good lawn and a well kept driveway, lined on both sides by trees."[15]

Figures 27-29 and 32-34 are photographs taken by members of the Campbell family circa 1927-30. Most are of family members standing at the front of the house, but there are two views of the front grounds, one from the house looking down to the river (Fig. 27), and one dated 1927 from south of Highway 2 up to and including the house (Fig. 28). The latter photographs show the central dirt driveway lined by willow hedges and flowers, and the woods flanking the house on either side. Both the hedges and the flowers had been removed by 1944.[16] Also visible is the lawn immediately in front of the house and the orchard closer to the road. It should be noted that the orchard extends west of the driveway as well as east; only the remnants of the eastern orchard exist today. The driveway entrance is framed on each side by about 20 feet of wooden fencing on an "X"-frame construction; the fencing is purely decorative in function.

Though it no longer exists, the McDonald-Campbell burial ground is a feature of Inverarden's historic landscape which cannot be ignored. It was located on a small hill several hundred yards to the north and east of the house and just inside the boundary of lot D.[17] The family cemetery, apparently consecrated by the Anglican minister S.J. Mountain, was first known to be used in 1825 when John Duncan Campbell's infant daughter of four-and-a-half months was laid to rest. The little cemetery continued to be used until at least the early 20th century, but around mid-century or earlier it suffered neglect and fell into disrepair. In 1970, when the land was owned by Chemcell Ltd., it was decided that the bodies would be reinterred elsewhere, presumably to free the land for industrial development. Unfortunately, some of the gravestones had been broken or stolen by this time and no complete record exists of who was buried there. The remains are now in the St. Lawrence Valley Union Cemetery about ten miles west of Cornwall. The single tombstone erected there reads in part: "HERE LIE THE REMAINS OF JOHN MACDONALD... [and three named individuals]...AND SIX OTHER UNKNOWN ADULTS AND TWO OTHER UNKNOWN CHILDREN...." Ironically, McDonald's name over his final resting place is misspelled. Research for the Inverarden restoration project has filled in some of the information missing from the gravestone.[18]

Endnotes

The Scottish Connection

1 William Stewart Wallace, ed. The Macmillan Dictionary of Canadian Biography, 3rd ed. rev. (Toronto: Macmillan, 1973) (hereafter cited as Macmillan Dictionary), p. 473.

2 John Graham Harkness, Stormont, Dundas and Glengarry: A History, 1784-1945 (Ottawa: Mutual Press, 1946), pp. 36-7.

3 Gerald M. Craig, Upper Canada: The Formative Years,1784-1841 (Toronto: McClelland and Stewart, 1963), p. 6.

4 Edward Mills, Early Settlement in Ontario, Manuscript Report Series No. 182 (Ottawa: Parks Canada, 1971-72) pp. 98-9.

5 "The Glengarry Emigration of 1786," Archaeological and Historic Sites Board of Ontario plaque, located on the grounds of St. Raphael Church ruins, St. Raphael West, Glengarry County, quoted in Encyclopedia of Ontario, comp. Nick and Helma Mika (Belleville, Ont.: Mika, 1974), Vol. 1, p. 271.

6 William Stewart Wallace, ed., Macmillan Dictionary, p. 443; John Graham Harkness, op. cit., p. 50.

7 Simon Fraser was born in Vermont in 1776, the son of a Scottish Loyalist who had come to America in 1773 and who died during the Revolution. His mother settled at St. Andrew's north of Cornwall and Simon, after a brief education in Montreal, was apprenticed to the North West Company as a clerk in 1792. In 1808 he explored to its mouth on the Pacific Ocean the river which now bears his name. Fraser retired about 1817 and settled on a farm on the Raisin River near St. Andrew's. He failed at several enterprises including a sawmill and a grist mill and was physically handicapped by a knee injury sustained as captain of the 1st Stormont militia regiment during the Rebellions of 1837-38. He lived in straitened circumstances on his farm until his death in 1862 and was buried in the Roman Catholic cemetery at St. Andrew's.

David Thompson, who was English rather than Scottish, joined the North West Company in 1797 after working for the rival Hudson's Bay Company for 13 years. In 1811 he explored the length of the Columbia River and in the following year prepared a map of the Northwest which became the basis of later maps. In the same year he retired and in 1815 settled at Williamstown, Glengarry County, in the house which had belonged to the Reverend John Bethune. Like Simon Fraser, Thompson's business enterprises, which included a store, did not do well. The details of his retirement life are sketchy; he died near Montreal in 1857.

Other retired North West Company partners, though perhaps less conspicuous in their fur-trade careers, made a greater impact upon the Scottish community in the Eastern District. One such individual was Hugh McGillis, the uncle of McDonald's second wife. Hugh McGillis was born in Scotland about 1767 and came with his family to the Mohawk Valley in 1773. His father joined Johnson's Royal Yorkers and settled the family on the Raisin River near Williamstown following the revolutionary war. Hugh joined the North West Company in 1790 and became a partner in 1801. He was sufficiently prosperous upon his retirement in 1816 to purchase Sir John Johnson's Manor House and farm at Williamstown. He was thereafter known as Laird McGillis. He took an active interest in local affairs and was a prominent patron of the Catholic Church. An elder brother, Donald, enjoyed a similar though perhaps less prosperous career with the North West Company. He retired to Alexandria and became deputy registrar of deeds for Glengarry County.

There were yet others who, like John McDonald of Garth, retired from service in the North West Company to homes in the Eastern District. Some have left scattered hints of their former prominence, but at present only a sketchy outline can be made of what was a flamboyant and influential element of the Eastern District's Scottish community. John McGillivray came from Scotland to join the North West Company in 1896 and was made a partner in 1801. In 1818 he retired from the fur trade and settled at Williamstown. He was appointed to the Legislative Council of Upper Canada in 1839 and held that position until the Act of Union in 1841. He died at Williamstown in 1855. Two more second-generation members of the Scot Loyalist migration were the brothers John and Miles Macdonell. Their father, "Spanish John" Macdonell (Scotus), emigrated to the Mohawk Valley in 1773 and joined Johnson's Royal Yorkers as a captain on the outbreak of war. He settled on a farm at St. Andrew's and died there in 1810. His son John was born in Scotland in 1768 and travelled with the family first to the Mohawk Valley and then to the Eastern District. He was a clerk in the North West Company by 1793 and a partner by 1796; he retired to Point Fortune on the Ottawa River in 1812. In 1817 he built "Poplar Villa," a home similar to Inverarden in scale and execution if not in architectural style. John Macdonell became a forwarder on the Ottawa and was part owner of the first steamboat on that river. He became a militia colonel and represented Prescott in the Assembly from 1815 to 1820; he was also an Ottawa District judge from 1816 to 1825. He died at Point Fortune in 1850. John's younger brother Miles Macdonell was placed in charge of the Red River colony by Lord Selkirk in 1811 and was appointed the first governor of Assiniboia by the Hudson's Bay Company, becoming one of the few Eastern District Scots to work for the North West Company's opposition. He retired to a farm in Osnabruck Township, Stormont County. Almost nothing is known of his retirement life; he died at his brother's home, Poplar Villa, in 1828. A cousin of John and Miles, Alexander Macdonell, was also active in the fur trade and in local affairs after his retirement. He was a son of Alexander Macdonell of Greenfield who immigrated to Glengarry County in 1792.

He served for a time as a clerk in the Red River department under John McDonald of Garth and was made a partner in 1814. He retired with the amalgamation of the North West and Hudson's Bay companies in 1821 and returned to Glengarry County which he represented in the Assembly from 1820 to 1828. He also served as sheriff of the Ottawa District in the 1820s and was elected MLA for Prescott and Russell in 1834. He died in Toronto in 1835 while attending parliament.

Another and closer associate of John McDonald of Garth who also retired to Stormont County was John Duncan Campbell. He was born in the Mohawk Valley in 1773 and emigrated with his Scots Loyalist family to Glengarry County following the war. His father, Alexander, represented Dundas County in the first Assembly of Upper Canada. John Duncan became a North West Company partner in 1803 and retired at the amalgamation of 1821. He settled in Stormont County, married John McDonald's eldest daughter and lived at Inverarden until his death in 1835. He was a justice of the peace for the Eastern District during the last decade of his life. Other Scots who were associated with both the Eastern District and the western fur trade included Angus Bethune, Duncan Cameron, a son of Loyalist Scot parents, and Finan McDonald, who worked with David Thompson and retired to Charlottenburgh Township, Glengarry County. There were also a number of Eastern District Scots who did not return after their years in the western fur trade.

For further information on the above individuals, see Dictionary of Canadian Biography (Toronto: Univ. of Toronto Press, 1966-) (hereafter cited as DCB), Vol. 9, s.v. "Simon Fraser"; William Stewart Wallace, ed., Macmillan Dictionary, pp. 446, 745; William Stewart Wallace, ed., Documents Relating to the North West Company (Toronto: Champlain Society, 1934) (hereafter cited as Documents), pp. 431, 464-6, 469, 502; John Graham Harkness, op. cit., pp. 399-401, 403.

8 Quoted in Edward Mills, op. cit., p. 99.

9 John Howison, Sketches of Upper Canada, Domestic, Local, and Characteristic..., reprint of 1821 ed. (Toronto: Coles, 1970), p. 20.

10 Robert Fleming Gourlay, Statistical Account of Upper Canada, Compiled with a View to a Grand System of Emigration, abridged and intro. S.R. Mealing from 1822 ed. (Toronto: McClelland and Stewart, 1974), p. 280.

11 Ibid., pp. 276-80.

12 Ibid.

13 J.F. Pringle, Lunenburgh or the Old Eastern District, intro. William F.E. Morley, reprint of 1890 ed. (Belleville, Ont.: Mika Silk Screening Co., 1972), p. 406.

14 Ontario. Ministry of Transportation and Communications, Map of the United Counties of Stormont, Dundas and Glengarry: East Portion, rev. Feb. 1973.

15 Canada. Public Archives (hereafter cited as PAC). National Map Collection, H2/400-1786, Loyalist map by Patrick McNiff, 1786.

16 Ontario. Ministry of Natural Resources. Survey Records Branch, Survey of St. Regis Indian Reserve prepared by McDonald and Browne in 1821.

17 Ibid.
18 Ernest Alexander Cruikshank, ed., The Correspondence of Lieut. Governor John Graves Simcoe, with Allied Documents Relating to his Administration of the Government of Upper Canada (Toronto: Ontario Historical Society, 1923), Vol. 1, pp. 10-11, Lord Dorchester to W.W. Grenville, Quebec, 15 Mar. 1790; Frederick Henry Armstrong, Handbook of Upper Canadian Chronology and Territorial Legislation (London, Ontario: Lawson Memorial Library, Univ. of Western Ontario, 1967), p. 143.
19 Mrs. Simcoe's diary, 25 June 1792, quoted in John Graham Harkness, op. cit., p. 62.
20 Diary of Joseph Hadfield, June 1785, quoted in John Graham Harkness, op. cit., p. 49.
21 Ernest Alexander Cruikshank, ed., op. cit., Vol. 4, p. 147, John White to Simcoe, Newark, 27 Nov. 1795.
22 William Stewart Wallace, ed., Macmillan Dictionary, p. 281.

John McDonald of Garth: Personality and Fur Trade Years, 1791-1816

1 McGill University, Montreal. Library. Rare Book Collection, John McDonald of Garth papers (hereafter cited as McGill, Papers), Small to McDonald, 18 March 1791.
2 Ibid., autobiographical notes of John McDonald of Garth, 1859 (hereafter cited as McGill, Autobiographical notes).
3 Ibid.
4 Archaeological and historical work has been done on the latter post. See Donald N. Steer and Harvey J. Rogers, 1975 Archaeological Excavations at Rocky Mountain House National Historic Park, Manuscript Report Series No. 180 (Ottawa: Parks Canada, 1976), and David Smith, The Fur Trade Posts at Rocky Mountain House, Manuscript Report Series No. 197 (Ottawa: Parks Canada, 1976).
5 McGill, Autobiographical notes, 1859.
6 Norman Anick, "John McDonald of Garth (1774-1860)," manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa, 1974, p. 8.
7 PAC, MG24, A58, McDonald to Edward Ellice, Gray's Creek, 16 July 1857.
8 McGill, Autobiographical notes, 1859.
9 Ibid.
10 Ontario. Archives (hereafter cited as PAO). Picture Collection, Portrait of John McDonald of Garth, circa 1804; original watercolour in the possession of Mrs. Garth Macdonald, Oakville, Ontario.
11 Collège Bourget, Rigaud, Québec. Archives, Archibald de Lery Macdonald papers (hereafter cited as CB), McDonald's annual statement of account with McTavish, McGillivray and Company, Montreal, 30 Nov. 1814.
12 McGill, Autobiographical notes, 1859.
13 "Inverarden" appears to have originated early in the 20th century. See "Inverarden: A Problem of Nomenclature" for a discussion of the names associated with the house.

John McDonald of Garth: Retirement Years, 1816-66

1 CB, McDonald's annual statement of account with McTavish, McGillivray and Company, 30 Nov. 1816.

2 Ibid., 30 Nov. 1817.

3 PAC, MG9, D7, (3), Vol. 1, p. 122, entry 355; James Reid Campbell, Campbell and McDonald family records (Cornwall) (hereafter cited as Records), family bible, family record of births. The latter record was compiled in the 1850s by John McDonald himself (James Reid Campbell is a descendant).

4 McCord Museum, Montreal (hereafter cited as McCord), Archibald de Lery Macdonald family papers, account of John Macdonald (sic) with James, Russel and Mackenzie, Montreal, 26 Nov. 1817.

5 This is the inscription which appears on the piano now in the possession of a descendant, Grant Campbell, Almonte, Ontario.

6 CB, McDonald's annual statement of account with McTavish, McGillivray and Company, Montreal, 30 Nov. 1816.

7 McCord, Archibald de Lery Macdonald family papers, account of Miss McDonald with Jane Grace Duff for sheet music, 1818.

8 PAO, Minutes of the Court of Quarter Sessions of the Peace for the Eastern District, Cornwall, 24 April 1821.

9 CB, articles of agreement between McDonald and Murdock Murchison, Cornwall, 5 Jan. 1818.

10 Ibid., receipt, Thomas Emery to McDonald, Gray's Creek, 1 April 1818.

11 PAC, RG1, L3, Vol. 339A, petition of John McDonald, Nov. 1818.

12 PAO, RG1, A-1-6, McDonald to Surveyor General Thomas Ridout, Cornwall, 3 July 1820.

13 Ibid., McDonald to Attorney General John Beverley Robinson, Gray's Creek, 5 Dec. 1827.

14 CB, proposed division of lots between McDonald and A. McLean, undated, possibly 1847.

15 Ibid., McDonald's annual statement of account with McGillivrays, Thain and Company, Montreal, 29 Nov. 1823.

16 Stormont County Land Registry Office, Cornwall, instrument 1235, deed of sale between John and Amelia McDonald and Eliza Campbell, 11 March 1824.

17 PAC, RG5, B9, Vol. 16, 20 May 1823; James Reid Campbell, Records, family bible, family marriage records. Other fur traders had married for a second time after leaving Indian wives in the Northwest while some brought their Indian wives back with them. To the knowledge of this writer, McDonald was the only one with the audacity both to bring his first wife back and them to marry again while she still lived.

18 PAO, St. John's (Presbyterian) Church, Cornwall, Session Records, 1827-75, p. 4, 1 July 1827.

19 CB, articles of agreement between John McDonald and David and Nicholas Harrison, Cornwall, 30 Nov. 1825; ibid., articles of agreement between John McDonald and J.B. Clement, Cornwall, 13 Dec. 1825.

20 PAO, RGI, A-1-6, McDonald to Attorney General John Beverley Robinson, Gray's Creek, 5 Dec. 1827.

21 PAO, Minutes of the Court of Quarter Sessions of the Peace for the Eastern District, Cornwall, Passim.

22 Frederick Henry Armstrong, op. cit., p. 160.
23 PAO, RGI, A-1-6, 5 Dec. 1827.
24 CB, Rolland MacDonald to McDonald, St. Catharines, 5 April 1841.
25 PAC, MG24, A58, McDonald to Edward Ellice, Gray's Creek, 16 July 1857.
26 McGill, Papers, McDonald to Chief Justice William Henry Draper, Gray's Creek, 25 July 1857.
27 PAC, MG24, A58, McDonald to Ellice, Gray's Creek, 19 July 1857.
28 Ibid., 16 July 1857.
29 Ibid.; McGill, Papers, Ellice to McDonald, Glenquish, 14 Sept. 1857.
30 PAC, MG24, A58, McDonald to Ellice, 19 July 1857.
31 McGill, Papers, McDonald to _____, Gart, 15 April 1858. This appears to be a copy; it is not known if the letter was ever sent.
32 Ibid., Robert Unwin Harwood to McDonald, Toronto, 8 July 1858.
33 Ibid., McDonald to Harwood, Gray's Creek, 9 July 1858.
34 Ibid., Ellice to McDonald, Glenquish, 14 Sept. 1857.

Inverarden: A Problem of Nomenclature

1 Marion MacRae, The Ancestral Roof: Domestic Architecture of Upper Canada (Toronto: Clarke Irwin, 1963), pp. 82-5.
2 William Stewart Wallace, ed., Documents, p. 464; William Stewart Wallace, ed., Macmillan Dictionary, p. 442. See also Louis-François-Rodrigue Masson, ed., Les bourgeois de la Compagnie du Nord-Ouest: récits de voyages, lettres et rapports inédits relatifs au Nord-Ouest canadien (Quebec: A. Coté et Cie, 1889-90), Vol. 2, p. 1; Robert Campbell, A History of the Scotch Presbyterian Church, St. Gabriel Street, Montreal (Montreal: W. Drysdale, 1887), p. 273; DCB, Vol. 9, s.v. "John McDonald."
3 DCB, Vol. 9, s.v. "John McDonald."
4 PAO, Archibald de Lery Macdonald papers, undated (ca. 1935) photocopy of advertisement of sale of Garth Estate, near Aberfeldy, Perthshire, Scotland.
5 James Reid Campbell, Records, family bible.
6 McGill, Autobiographical notes, 1859.
7 Ibid.
8 Ibid.
9 CB, McDonald's annual statement of account with McTavish, McGillivray and Company, Montreal, 30 Nov. 1816; ibid., McDonald's receipted account with Robert Colquhoun, 27 April 1816.
10 Ibid., 1816, passim.
11 McCord, Archibald de Lery Macdonald family papers, McDonald account with D. Robertson, Montreal, 1 March 1817.
12 PAC, RG5, A1, pp. 22383-5, Capt. Archibald MacDonald to Lieutenant Governor Sir Peregrine Maitland, 27 Dec. 1819; CB, William Browne, Milleroches, to John McDonald, 6 Jan. 1820.
13 Stormont County Land Registry Office, instrument 1235, deed of sale between John and Amelia McDonald and Eliza Campbell, 11 March 1824.
14 PAC, MG9, D7, (3), Vol. 1, p. 233, entry 759; ibid., p. 246, entry 812.

15 Louis-François-Rodrigue Masson, ed., op. cit., Vol. 2, p. 9.
16 PAO, Archibald de Lery Macdonald papers, photocopy of article, "Macdonald of Garth; last of the old Nor'Westers," from unnamed and undated (probably ca. 1934) newspaper.
17 George Duncan Gibb, The Life and Times of Robert Gibb, Lord of Carribber, Familiar Servitor and Master of the Stables to King James of Scotland (London, 1874) I, p. 208, n. 1.
18 James Reid Campbell, Records, family bible.
19 Ibid., Eliza Campbell to Julia _____, Inverardine, 9 July 1883.
20 CB, Mary Josephine Campbell to Archie (Archibald de Lery Macdonald), Inverardine, 9 March 1888.
21 PAO, Hugh MacMillan biographical files, John Duncan and Colin Campbell file, photocopy of newspaper obituary of Eliza Campbell, unnamed, handwritten date 1 Dec. 1890.
22 Ibid., Lt. Col. W.J. McDougald, Kenyon, Yetminster [Dorset], to Hugh MacMillan, 23 Sept. 1966.
23 The photograph, Figure 28 in this report, is now in the possession of Mrs. William Campbell, Cornwall.
24 PAO, Archibald de Lery Macdonald papers, photocopy of article, "Macdonald of Garth: last of the old Nor'Westers," from unnamed and undated (probably ca. 1934) newspaper.
25 Interview with Mrs. Earl McIntyre, née Bulah Campbell, Cornwall, 1 Dec. 1976.

Inverarden: Construction and Modifications

1 McGill, Autobiographical notes, 1859.
2 PAO, Bishop Alexander MacDonell papers, Macdonell to John McDonald, 3 July 1820; see also CB, McDonald's correspondence with his Roman Catholic daughter-in-law, Louisa Macdonald, née Harwood, in the late 1850s and early 1860s.
3 McGill, Papers, Agreement to purchase between David Ogden, attorney for Jane Gair and Thomas Ilderton Ferriar and the Reverend Alexander MacDonell, 11 Oct. 1815.
4 CB, John McDonald's yearly account with McTavish, McGillivray and Company, Montreal, 30 Nov. 1816.
5 McCord, Archibald de Lery Macdonald family papers, John McDonald's account with James Marshall, Montreal, 4 March 1816.
6 CB, John McDonald's account with Robert Colquhoun, Charlottenburg (sic), for room and board, 27 April 1816.
7 Ibid., addendum.
8 PAO, Minutes of the General Quarter Sessions of the Peace for the Eastern District, Cornwall, 25 April 1816. See "Inverarden: Landscape" for a discussion of the probable condition of the local road system in 1816.
9 CB, John McDonald's yearly account with McTavish, McGillivray and Company, 30 Nov. 1816, entry dated 22 May 1816.
10 Ibid., John McDonel's (sic) account with _____, 24 May 1816.
11 Ibid., John McDonald's yearly account with McTavish, McGillivray and Company, 30 Nov. 1816.
12 Ibid.
13 Ibid.; "Historic Church Document Found in Strange Hands," Montreal Gazette, 28 July 1931, p. 4.

14 Canada. Indian and Northern Affairs. Parks Canada. Ontario Region, Inverarden Research File (C-8400-576), Robert J. Burns, Cornwall, to Margaret Carter, 18 Aug. 1976; ibid., M. Sutherland, Ottawa, to Burns, 25 Aug. 1976.

15 McCord, Archibald de Lery Macdonald family papers, John McDonald's account with Donald Duff, 24 July 1816.

16 CB, John McDonnell's account with Alexander Watson, 28 Oct. 1816.

17 McCord, Archibald de Lery Macdonald family papers, John McDonald's account with Ann Cuthbert Knight, 4 Jan. 1817.

18 PAC, MG9, D7, (3), Vol. 1, p. 122, entry 355; James Reid Campbell, Records, family record of births. The latter record states that Magdalene was born at Gray's Creek; though the record appears to have been compiled in the 1850s, it is in McDonald's handwriting and can probably be relied upon as being accurate.

19 CB, John McDonell's (sic) account with J. O'Donnelly, Charlottenburg (sic), 31 Dec. 1816.

20 PAO, D-1708, "Architectural Sketch of Main Floor, Inverarden," August 1969, prepared for the Faculty of Architecture, University of Toronto (see Fig. 13).

21 From a rough estimate made by the restoration officer, J. Zukowski, who supervised the stripping process and analysed its results.

22 McCord, Archibald de Lery Macdonald family papers, John McDonald's account with J.P. Hogg, Montreal, 7 March 1817 (see Figs. 6 and 7 for photocopies of the account and Fig. 8 for a detail of the second page, containing what appears to be a sketch of Inverarden's grounds).

23 PAO, RG1, A-1-6, John McDonald, Gray's Creek, to Thomas Ridout, 4 June 1821.

24 CB, W. Browne, Milleroches, to John McDonald, Gart, 6 Jan. 1820.

25 Christ Church (Anglican) Cathedral, Montreal, marriage register, 5 Jan. 1822; extract of Christ Church (Anglican) Cathedral, Montreal, marriage register dated 10 Jan. 1866 in James Reid Campbell, Records.

26 PAO, Hugh MacMillan biographical files, John Duncan and Colin Campbell file, photocopy of unnamed and undated newspaper obituary of Eliza Campbell, handwritten date 1 Dec. 1890.

27 PAC, RG8, C Series, Vol. 370, pp. 105-6, John McDonald, Gart, to Col. Darling, 11 June 1824.

28 James Reid Campbell, Records, family bible entry in John McDonald's handwriting.

29 Ibid.

30 Stormont County Land Registry Office, Cornwall, instrument 1235, deed of sale between John and Amelia McDonald and Eliza Campbell, 11 March 1824.

31 PAC, RG8, C Series, Vol. 370, pp. 100-100a and William Macdonald, Gart, Cornwall, to Col. Darling, 24 March 1824.

32 CB, W. Browne, Milleroches, to John McDonald, Gart, 6 Jan. 1820.

33 PAC, MG9, D7, (3), Vol. 1, p. 246, baptism of James Reid, son of John Duncan and Elizabeth (sic) Campbell, 22 March 1826.

34 PAO, manuscript census of Town of Cornwall, and Cornwall and Roxborough townships, 1829.

35 Ontario. Ministry of Natural Resources. Survey Records Branch, Map of the survey of the eastern boundary of Cornwall and Roxborough townships, by James West, 1840.

36 CB, John McDonald to John McGillis, and Rolland and De Bellefeuille Macdonald, 25 Feb. 1860.

37 Interview with Mrs. Earl McIntyre, Cornwall, née Bulan Campbell, 1 Dec. 1976.

38 PAC, Canada West Census, 1851 (microfilm, reel X 60), Stormont County, Cornwall Township.

39 Stormont County Land Registry Office, Cornwall, instrument 1284, mortgage between John Duncan and Eliza Campbell and George Simpson, 17 April 1828.

40 James Reid Campbell, Records, Colin Campbell to Eliza Campbell, April 1837, and 20 May 1842.

41 CB, John McDonald's yearly account with McGillivrays, Thain and Company, 30 Nov. 1824.

42 The data in this table have been compiled from McDonald's accounts for the years 1815-25, the originals of which are located at the Archives du collège Bourget, Rigaud, Québec. The apparent discrepancies between money spent and that remaining result from the addition of interest payments to McDonald at the end of each year.

43 PAC, Canda West Census, 1861 (microfilm, reel C-1075, p.1), Agricultural Census, Stormont County, Cornwall Township, First Concession, east half lot C; Second Concession, east quarter lot C.

44 The personal census for Cornwall Township, 1861, has not survived.

45 CB, John McDonald to John McGillis, and Rolland and De Bellefeuille Macdonald, 25 Feb. 1860.

46 Ibid., McDonald to James Reid Campbell.

47 CB, John McDonald to De Bellefeuille Macdonald, 16 Sept. 1858; James Reid Campbell, Records, family bible, death records.

48 James Reid Campbell, Records, family bible, marriage and death records.

49 Ibid., typescript reminiscence fragment, author unknown, undated but probably 1940s.

50 Ibid.

51 Interview with Grant Campbell, Almonte, Ontario, 4 Oct. 1976.

52 PAO, Hugh MacMillan biographical files, John Duncan and Colin Campbell file, W.J. McDougald, Kenyon, Yetminster [Dorset], to Hugh MacMillan, 23 Sept. 1966.

53 Ibid.; interview with Mrs. William Campbell, Cornwall, who lived at Inverarden from her marriage in 1919 until 1965, 25 May 1977.

54 Stormont County Land Registry Office, Cornwall, Index to lots in the first concession, Cornwall Township; James Reid Campbell, Records, unnamed newspaper clipping, n.d. [Standard Freeholder (Cornwall, Ontario) 13 April 1951]; interview with Mrs. William Campbell, 25 May 1977.

55 Interview with James Reid Campbell, 24 Sept. 1976.

56 PAO, Hugh MacMillan biographical files, W.J. McDougald to Hugh MacMillan, 23 Sept. 1966; interview with Mrs. William Campbell, 25 May 1977.

57 Interview with Mrs. William Campbell, 25 May 1977.

58 Ibid.

59 Interview with James Reod Campbell, 24 Sept. 1976; interview with Mrs. William Campbell, 25 May 1977.
60 Celanese Canada Ltd., Cornwall (formerly Chemcell Ltd.), Construction Documentation Photograph Collection, May-August 1966, coloured photograph of Inverarden's east wall showing attached oil storage tank, now removed.
61 Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives, "Cornwall - Historic Houses - Inverarden," a collection of 14 photographs of Inverarden taken by V.N. Styrmo, Feb. 1967.
62 Interview with Mrs. William Campbell at Inverarden, 3 June 1977.
63 See Figures 33 and 34 for these changes.
64 Interview with Mrs. William Campbell, 4 Aug. 1977.
65 Interview with Grant Campbell, 4 Oct. 1976; interview with Mrs. Rodolph Pitre, 26 May 1977. Mrs. Pitre lived in a small cottage at the southeast corner of the Campbell property from 1944 to 1953.
66 Interview with Mrs. William Campbell, 25 May 1977.
67 Interview with Mrs. Rodolph Pitre, 26 May 1977.
68 PAO, Hugh MacMillan biographical file, W.J. McDougald to Hugh MacMillan, 23 Sept. 1966; interview with Mrs. William Campbell, 25 May 1977.
69 PAO, Hugh MacMillan biographical file, W.J. McDougald to Hugh MacMillan, 23 Sept. 1966; McDougald does not specify the building which he refers to as a stable. It was probably either hay barn "A" north of Inverarden or the cattle barn to the north and east. See Figure 17.
70 Interview with Mrs. William Campbell, 25 May 1977.
71 Ibid.
72 Ibid.
73 Ibid.
74 Interview with Mrs. Rodolph Pitre, 26 May 1977.
75 Interview with Miss Mary Mack, 29 June 1976; Miss Mack recalled as a child seeing such a stone fence being dismantled; she put the date at about 1919, but was not certain if the fence was in front of Inverarden or the adjacent Nathan Copeland property (lot D). Interview with Mrs. William Campbell, 25 May 1977; Mrs. Campbell thought there was a stone fence in front of the Inverarden property, but was not certain about this detail. The fence would have been destroyed about the time of her marriage and arrival at Inverarden.
76 Interview with Mrs. William Campbell, 25 May 1977.
77 Interview with Mrs. Rodolph Pitre, 26 May 1977.
78 It is infrequent that the destruction of the fabric of an historic setting is so clearly documented.
79 Interview with Mr. Reginald Hollingsworth, plant superintendent, Celanese Canada Ltd., Cornwall, 18 July 1977.

Inverarden: Landscape

1 For a discussion of the probable development of the land prior to McDonald's purchase and the construction of Inverarden in 1816, see 'The Inverarden Property, 1784-1816' in "The Scottish Connection."
2 Ibid.

3 Upper Canada Gazette (York), 1 April 1819.
4 Montreal Gazette, 2 Feb. 1817.
5 Ibid., 25 Sept. 1822.
6 Ibid., 14 March 1823.
7 PAC, RG5, A1, Vol. 102, pp. 57858-9, memorial to Lieutenant Governor Sir John Colborne, Cornwall, 15 Sept. 1830.
8 PAC, National Map Collection, M/430 - Cornwall - 1794, Plan of the Township of Cornwall, 1794, by William Chewett; ibid., VII-424/412-1815, Sketch of the St. Lawrence, Cornwall to St. Regis, by William Fitzwilliam Owen, June 1815.
9 PAO, Minutes of the General Quarter Sessions of the Peace for the Eastern District, 25 April 1816.
10 CB, articles of agreement between John McDonald and David and Nicholas Harrison, Cornwall, 30 Nov. 1825; ibid., articles of agreement between John McDonald and J.B. Clement, Cornwall, 13 Dec. 1825.
11 Ibid.
12 PAC, Canada West Census, 1861 (microfilm, reel C-1075, p. 1), Agricultural Census Stormont County, Cornwall Township, First Concession, east half lot C; Second Concession, east quarter lot C.
13 CB, John McDonald, Gart, to James Reid Campbell, 1 Jan. 1861.
14 Interview with Mrs. William Campbell, 25 May 1977.
15 PAO, Hugh MacMillan biographical file, W.J. McDougald to Hugh MacMillan, 23 Sept. 1966.
16 Interview with Mrs. Rodolph Pitre, 26 May 1977.
17 Stormont County Land Registry Office, Cornwall, mortgage between the Trust and Loan Company of Canada and Elizabeth Harwood; the land was sold to the Molson's Bank, 25 Sept. 1879, instrument 3416. The exact surveyor's co-ordinates of the cemetery are available in this mortgage.
18 The two children were Magdalen Ann, daughter of John Duncan and Eliza Campbell, and Aeneas Hugh, first child of John and Amelia McDonald. The adults probably included Nancy Small, John McDonald's first wife, and Eliza, their eldest daughter, John Duncan Campbell Sr., James Reid Campbell Sr., and his wife Mary Josephine, née Burke. The sixth individual was likely Agnes, spinster daughter of John and Nancy McDonald.

Illustration References

1 PAC, National Map Collection, H2/400-1786, Loyalist map by Patrick McNiff, 1786.
2 Ontario. Ministry of Natural Resources. Survey Records Branch, Survey of St. Regis Indian Reserve, by McDonald and Browne, 1821.
3 PAO, Picture Collection, portrait of John McDonald of Grath, circa 1804.
5 McCord, John McDonald account with James Marshall, Montreal, 4 March 1816.
6 Ibid., John McDonald account with J.P. Hogg, Montreal, 7 March 1817, p. 1.
7 Ibid., p. 2.
8 Ibid.

9 Ontario. Ministry of Natural Resources. Survey Records Branch, Survey of St. Regis Indian Reserve, by McDonald and Browne, 1821.

10 Ibid., Map of the survey of the eastern boundary of Cornwall and Roxborough townships by James West, 1840.

12 The drawing is based on PAO, D-1708, "Architectural Sketch of Main Floor, Inverarden," August 1969. Prepared for the Faculty of Architecture, University of Toronto.

13 Ibid.

14 Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives, Cornwall - Historic Houses - Inverarden.

16 Ontario. Ministry of Natural Resources. Air Photograph Library, job 65, Oct. 1938, microfilm reel 389, frame 68-9.

17 Ontario. Ministry of Transportation and Communications, survey of Highway 2, 1939.

18 Celanese Canada Ltd., Cornwall, Construction Documentation Photograph Collection, May-Aug. 1966.

19 Ibid.

20 Ibid.

21 Ibid.

22 Ibid.

23 Ibid.

24 Ibid.

25 Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives, Cornwall - Historical Houses - Inverarden.

26 Ibid.

30 PAC, National Map Collection, M/430 - Cornwall - 1794, Plan of the Township of Cornwall, 1794, by William Chewett.

31 Ibid., VII - 424/412-1815, Sketch of the St. Lawrence, Cornwall to St. Regis, June 1815, by William Fitzwilliam Owen.

Bibliography

Perhaps the most challenging aspect of historical research on a single, rural, domestic structure built over 160 years ago concerns the nature and availability of primary source material. While local records such as census data, assessment rolls and land registry files can be invaluable in reconstructing an outline of past ownership and development, such records are frequently fragmentary and incomplete. This was certainly the case in respect to historical data available on Inverarden. In fact it can be stated with justification that historians and archivists in the past have often not evinced sufficient interest in the preservation and collection of local records and manuscript material. During the course of his research for Inverarden, the historian uncovered, among other items in the basement of the Stormont County Court House, the manuscript minutes of the Court of Quarter Sessions of the Peace for the Eastern District for all of the 19th century. That documents of such central importance to the social history of eastern Ontario had remained ignored and virtually discarded for so long in a public building does not reflect well on record retention systems at either the local or provincial level. In addition, a local repository was initially unaware that it had in its possession a collection of several hundred original pieces of McDonald correspondence. These situations are no doubt common to other geographical areas and, while they may be the result of a past tendency to emphasize broader historical themes, they are nonetheless to be lamented. It is hoped that, as local and regional historical studies increase, a more concerted and systematic effort will be made to uncover and preserve existing local source material.

Fortunately for the purposes of this study, Inverarden's builder John McDonald of Garth was a profilic letter writer and a grandson, Archibald de Lery Macdonald, was an amateur historian who collected and preserved several hundred pieces of his grandfather's correspondence. Thus two coincidental circumstances made possible the development of a relatively detailed sketch of McDonald's retirement career and threw some light upon the construction and 19th-century modifications to the house.

Information on 20th-century changes came largely from interviews with descendants of McDonald, some of whom lived at Inverarden as early as 1919 and as late as 1965, and neighbours. Those interviewed include Mr. Grant Campbell, Almonte; Mr. James Reid Campbell, Cornwall; Mrs. William Campbell, Cornwall; Miss Marion Campbell, Cornwall; Mr. Reginald Hollingsworth, Cornwall; Mrs. Earl McIntyre (née Bulah Campbell),

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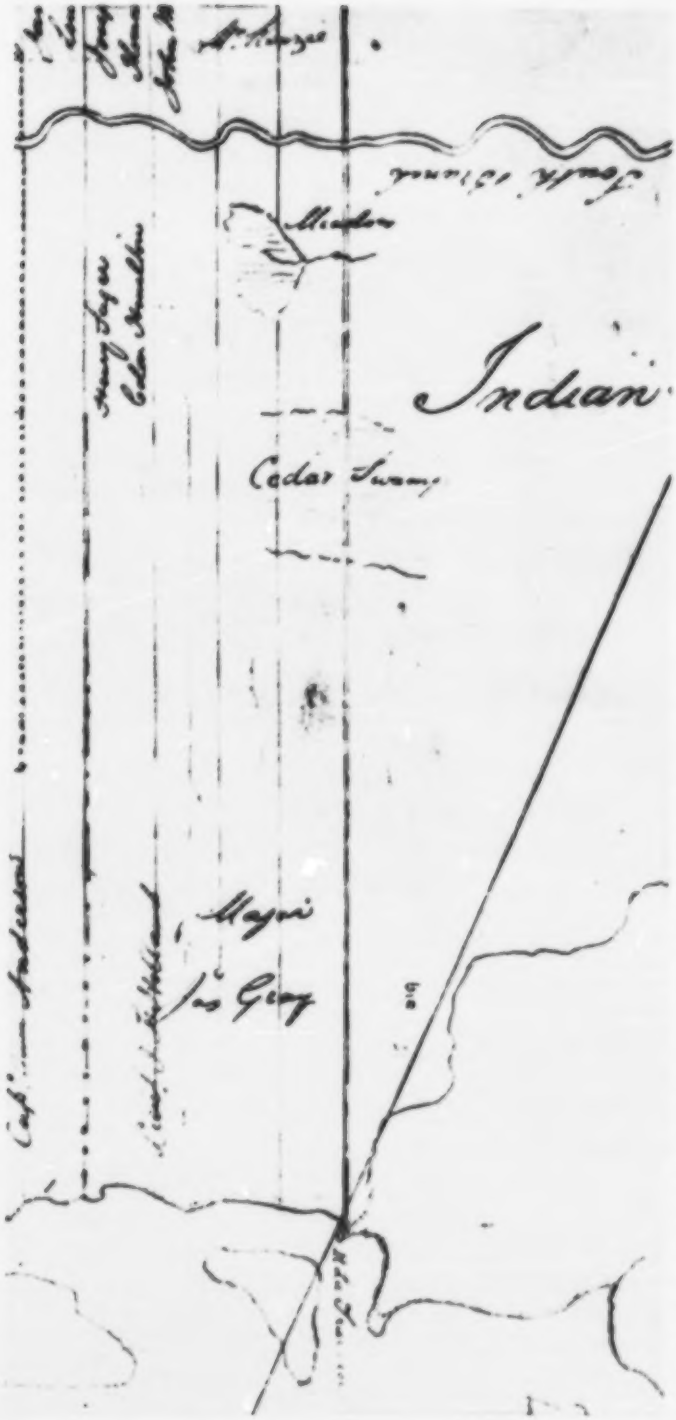
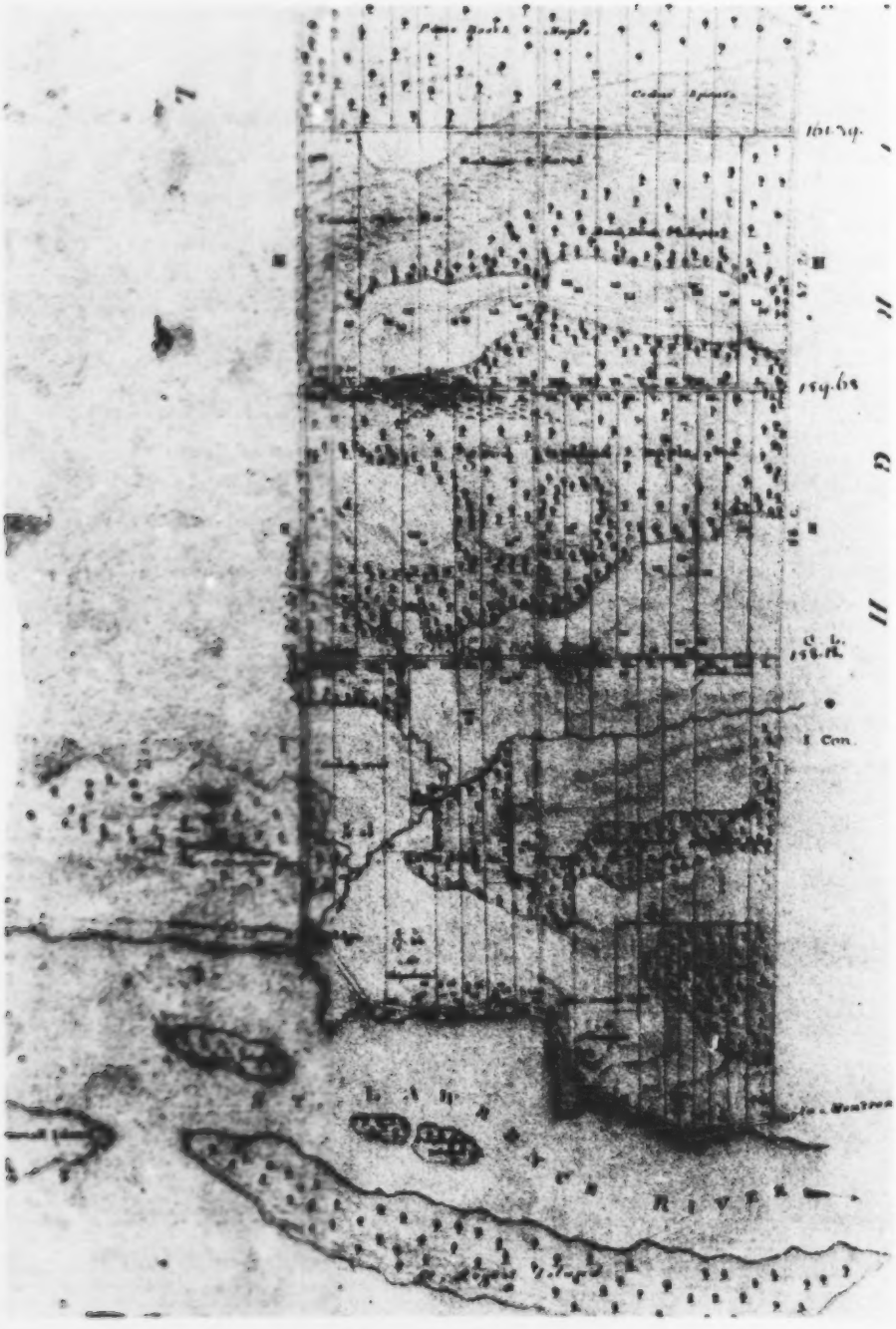
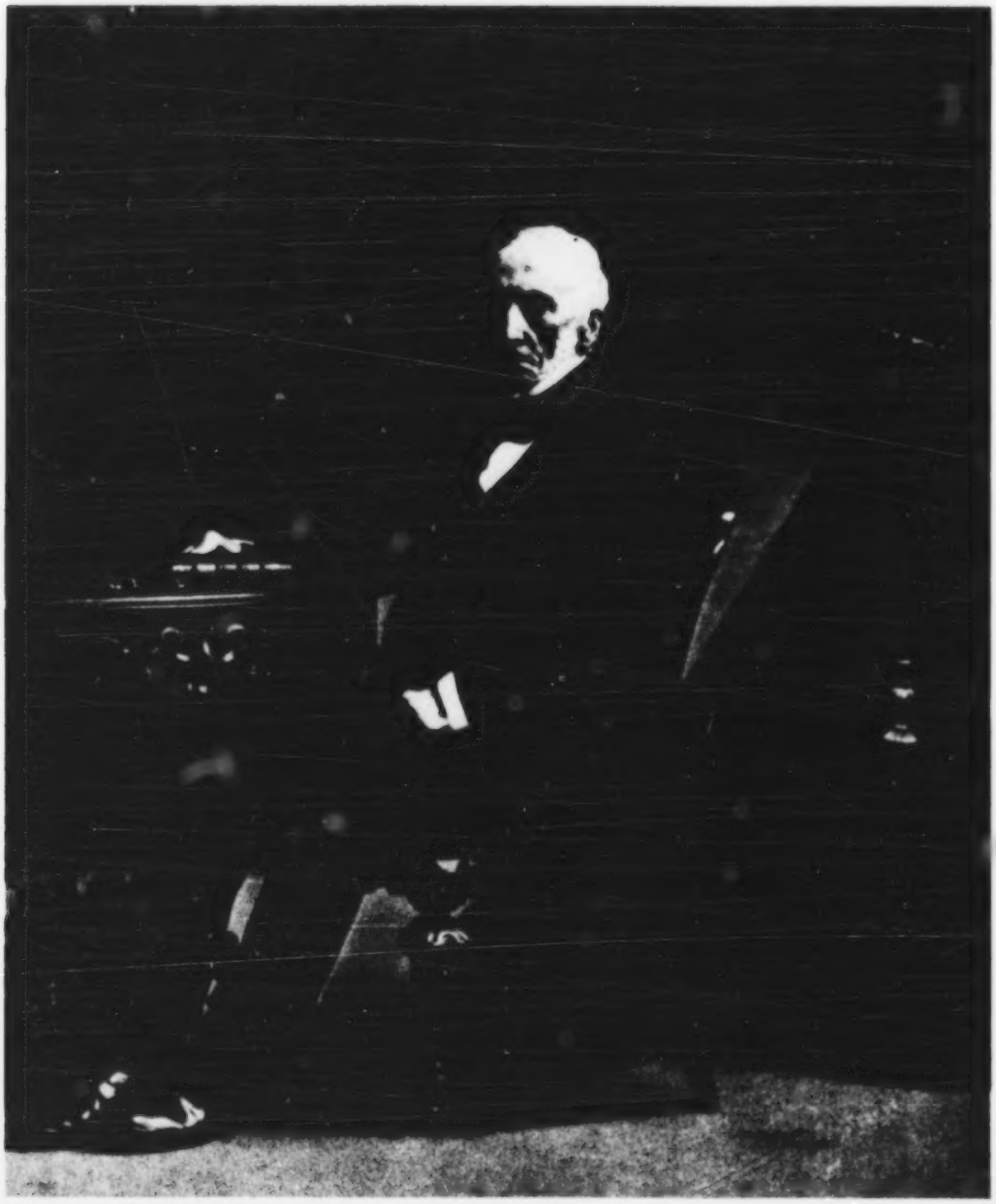


1 "Loyalist Map" by Patrick McNiff, 1786. (Public Archives Canada.)

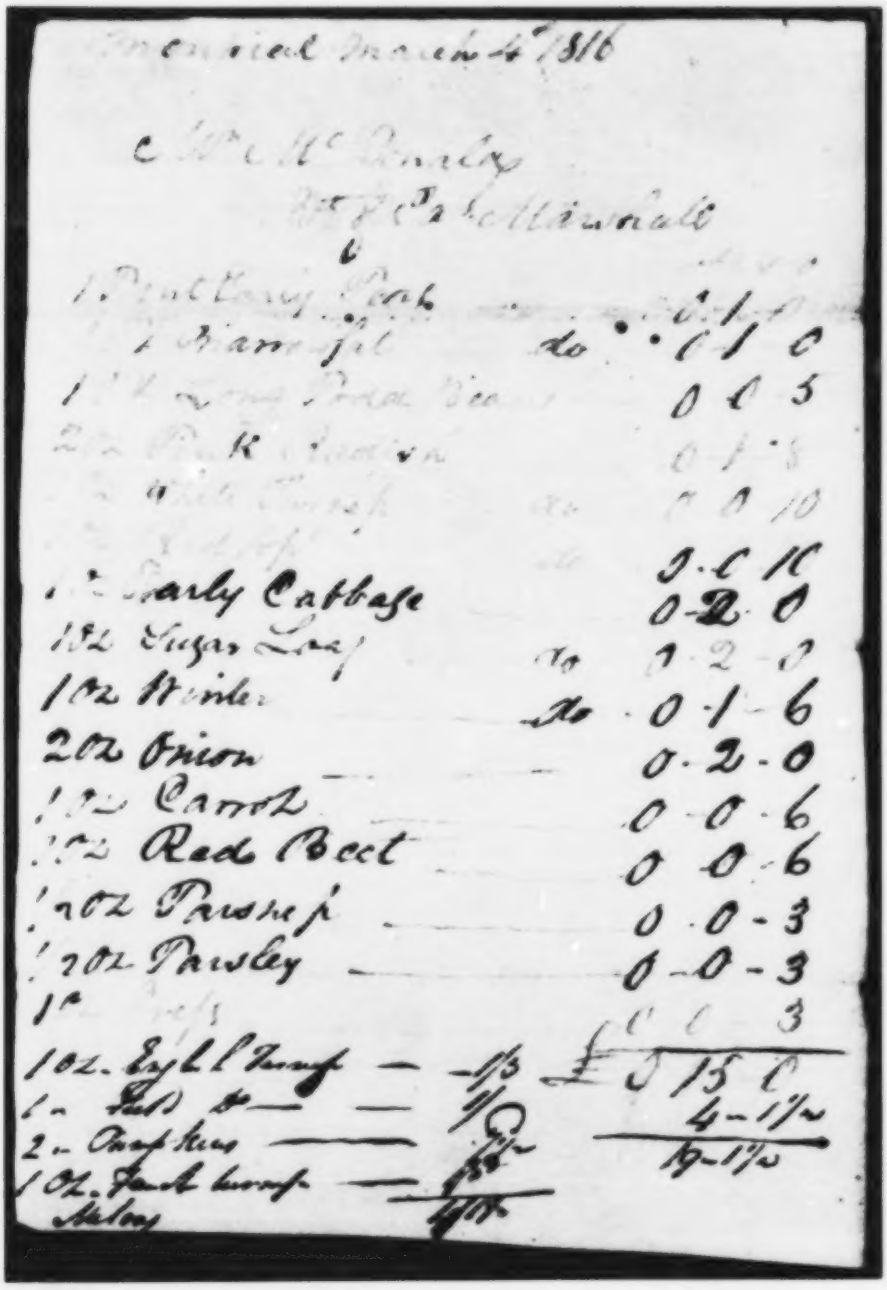


2 "Survey of St. Regis Indian Reserve" by McDonald and Browne, 1821. (Ontario. Ministry of Natural Resources.)

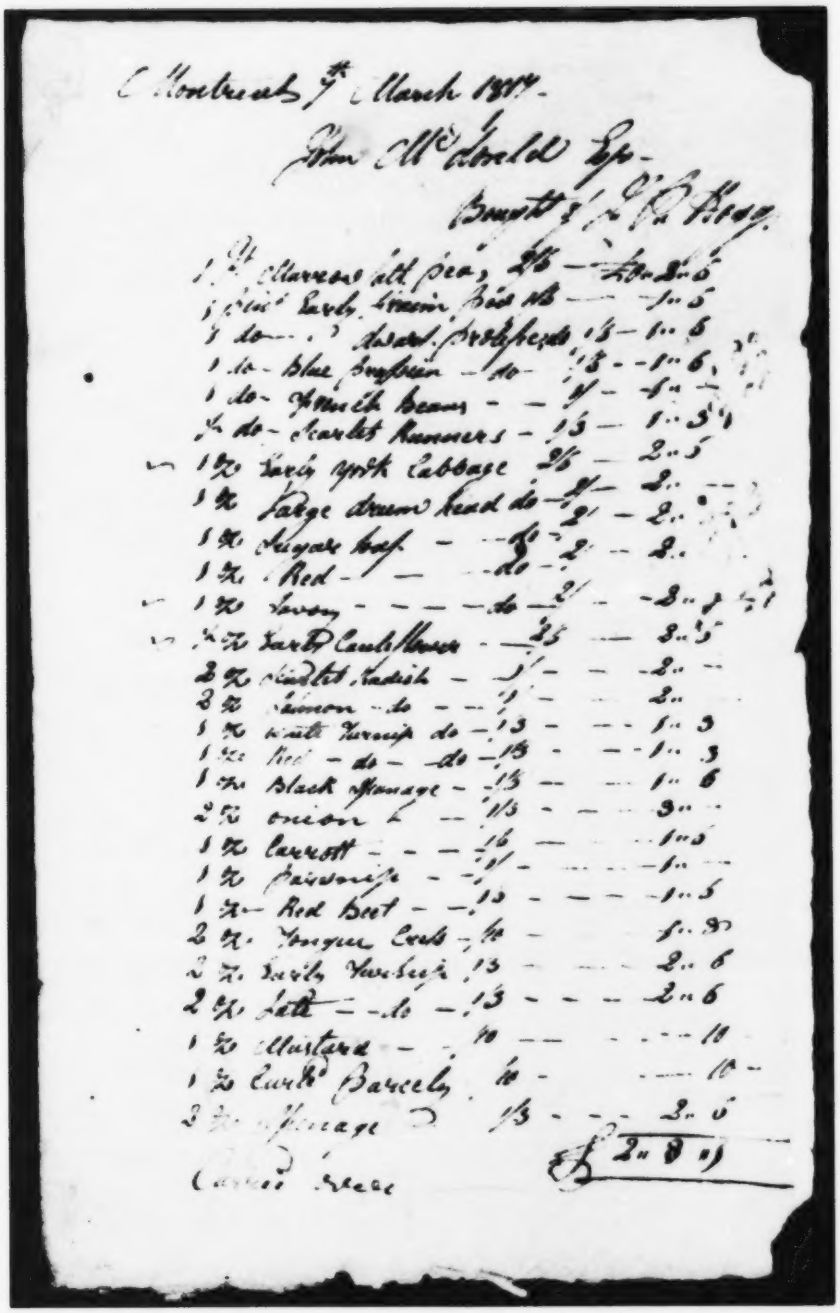
3 Portrait of John McDonald of Garth, circa 1804. (Ontario. Archives; original watercolour in the possession of Mrs. Garth Macdonald, Oakville, Ontario.)



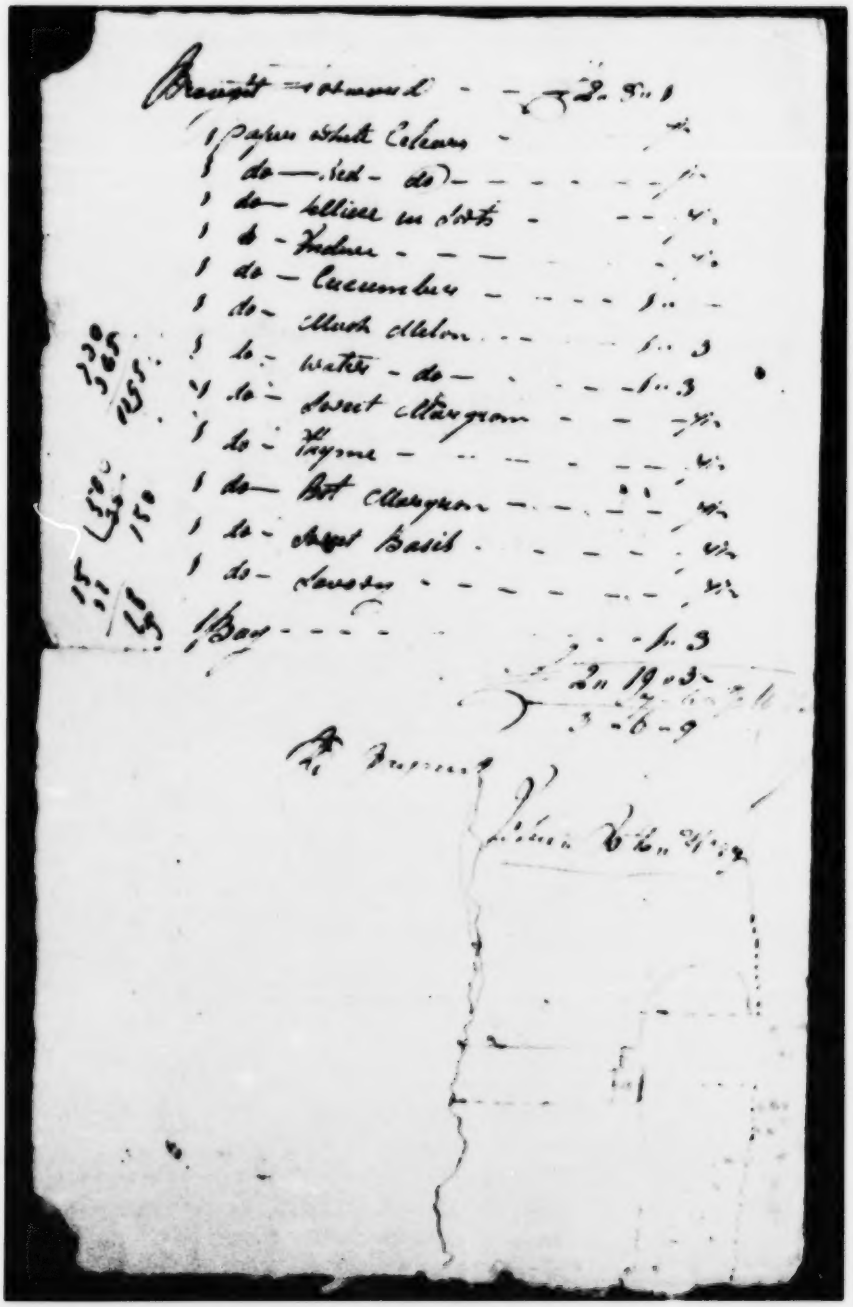
4 Photograph of John McDonald of Garth, 1863. (McCord Museum, Montreal. Notman Photographic Archives.)



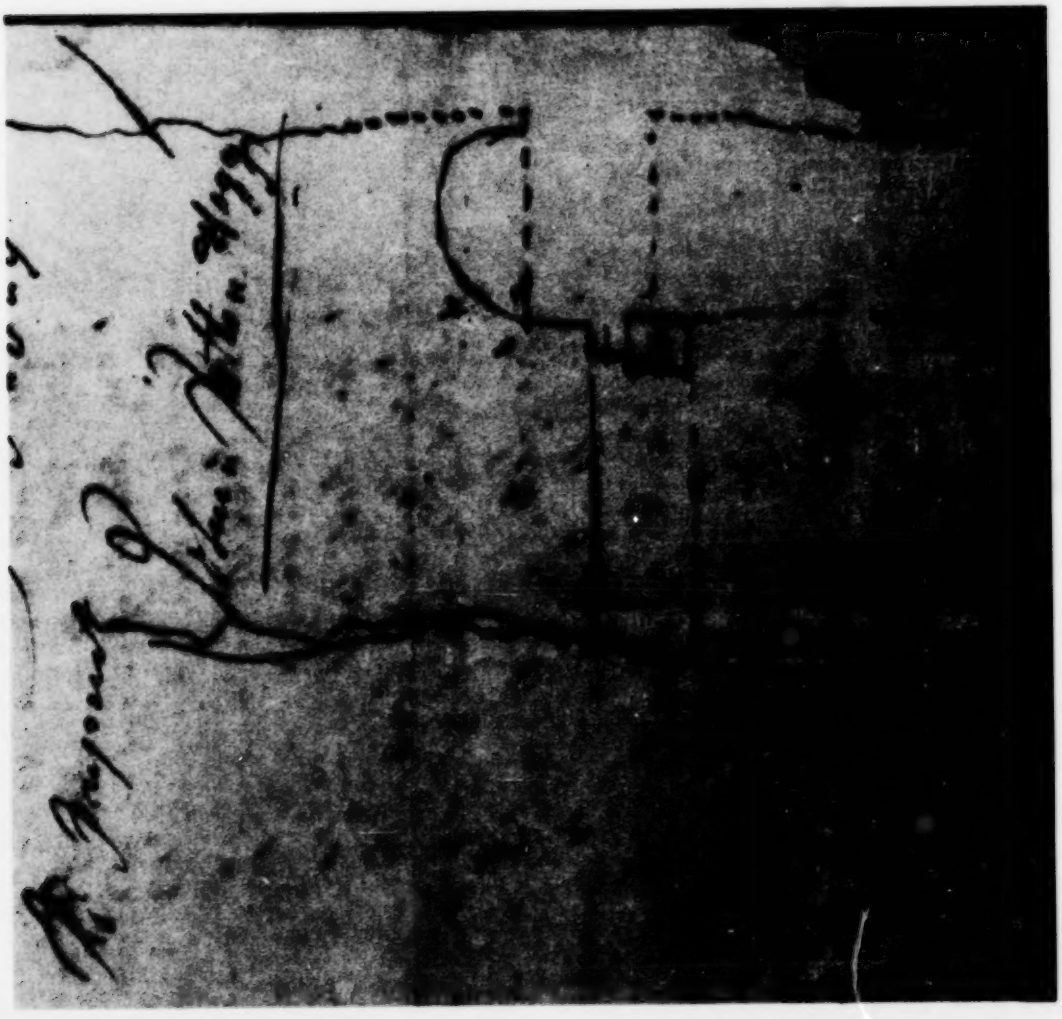
5 John McDonald's account for vegetable seeds with James Marshall, Montreal, 4 March 1816. (McCord Museum, Montreal.)



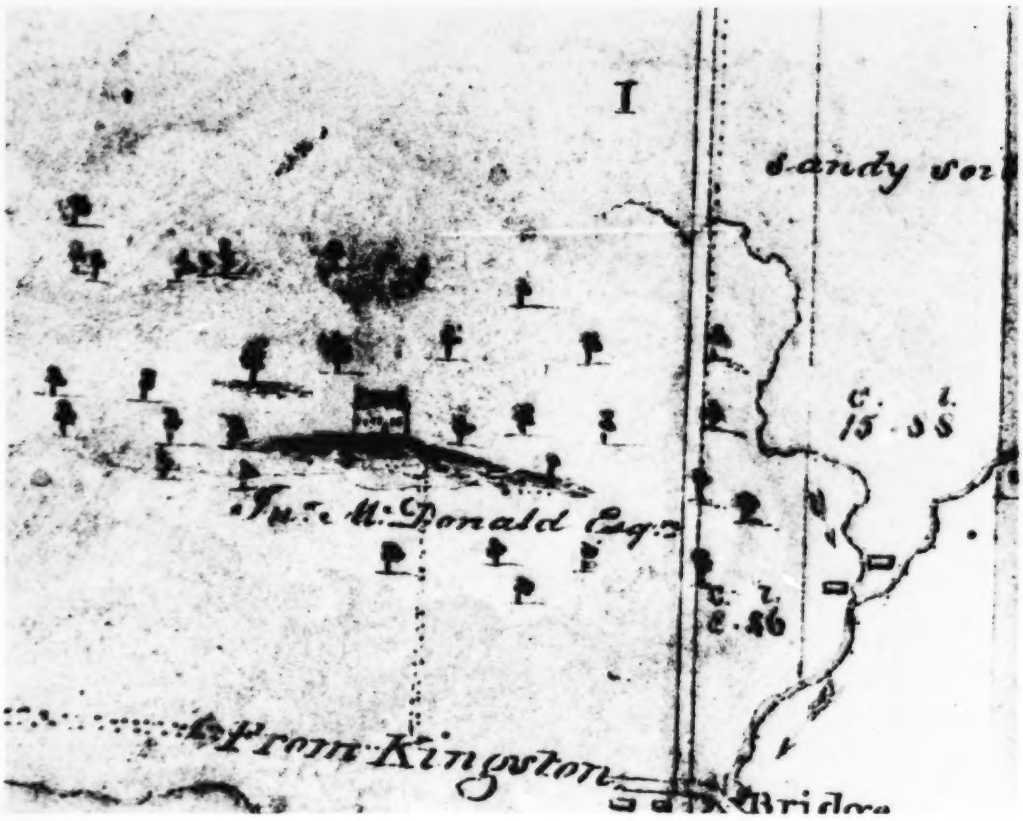
6 John McDonald's account for vegetable seeds with J.P. Hogg, Montreal, 7 March 1817, p. 1. (McCord Museum, Montreal.)



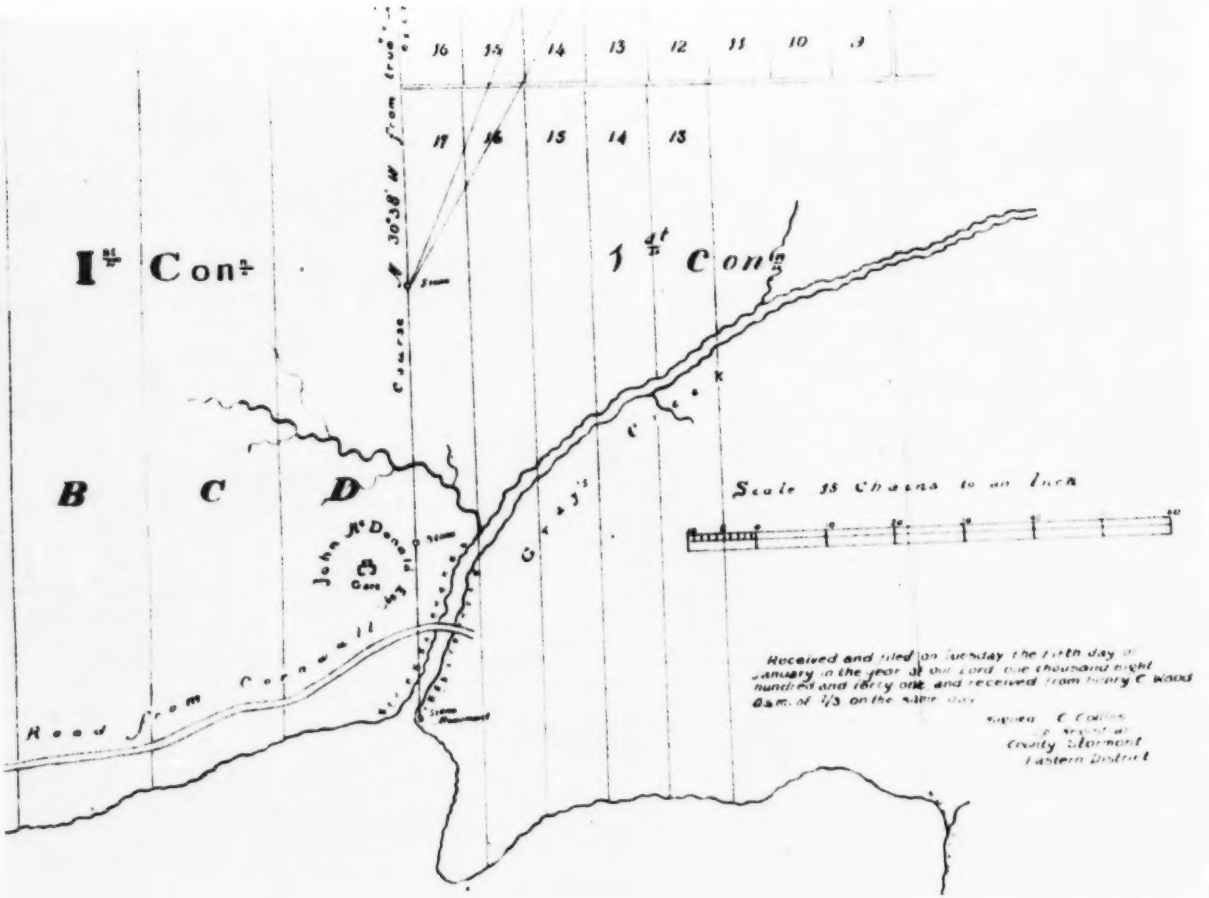
7 John McDonald's account for vegetable seeds with J.P. Hogg, Montreal, 7 March 1817, p. 2. (McCord Museum, Montreal.)



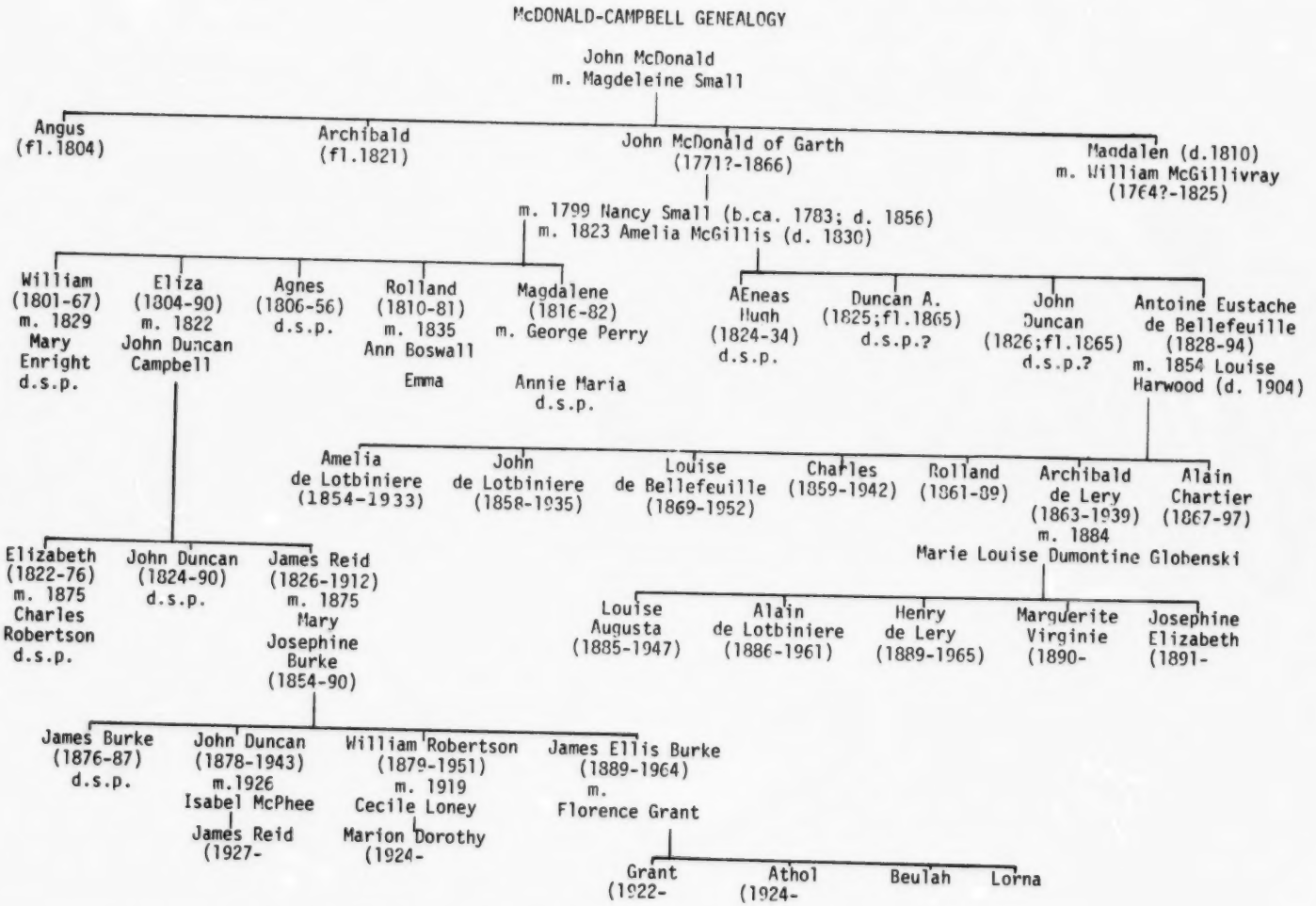
8 Detail of Figure 7 showing what appears to be a sketch of Inverarden's grounds. (McCord Museum, Montreal.)



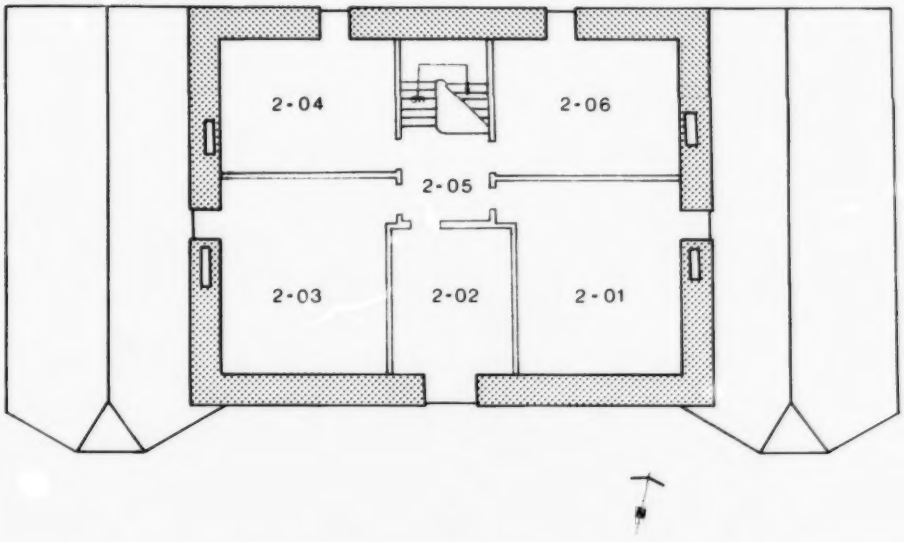
9 Detail of the "Survey of St. Regis Indian Reserve" by McDonald and Browne, 1821, showing a sketch of Inverarden without its wings. (Ontario. Ministry of Natural Resources.)



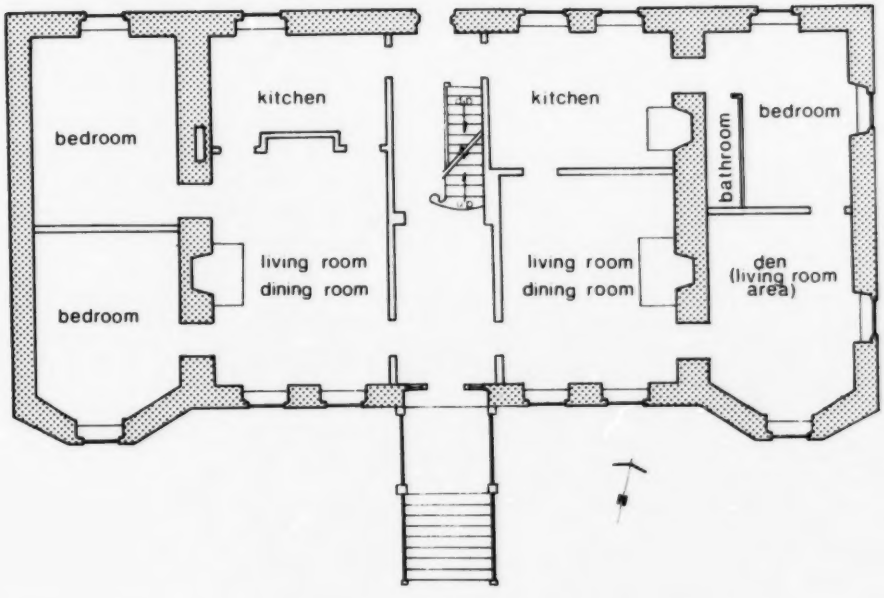
10 "Map of the Survey of the Eastern Boundary of Cornwall and Roxborough townships" by James West, 1840. (Ontario. Ministry of Natural Resources.)



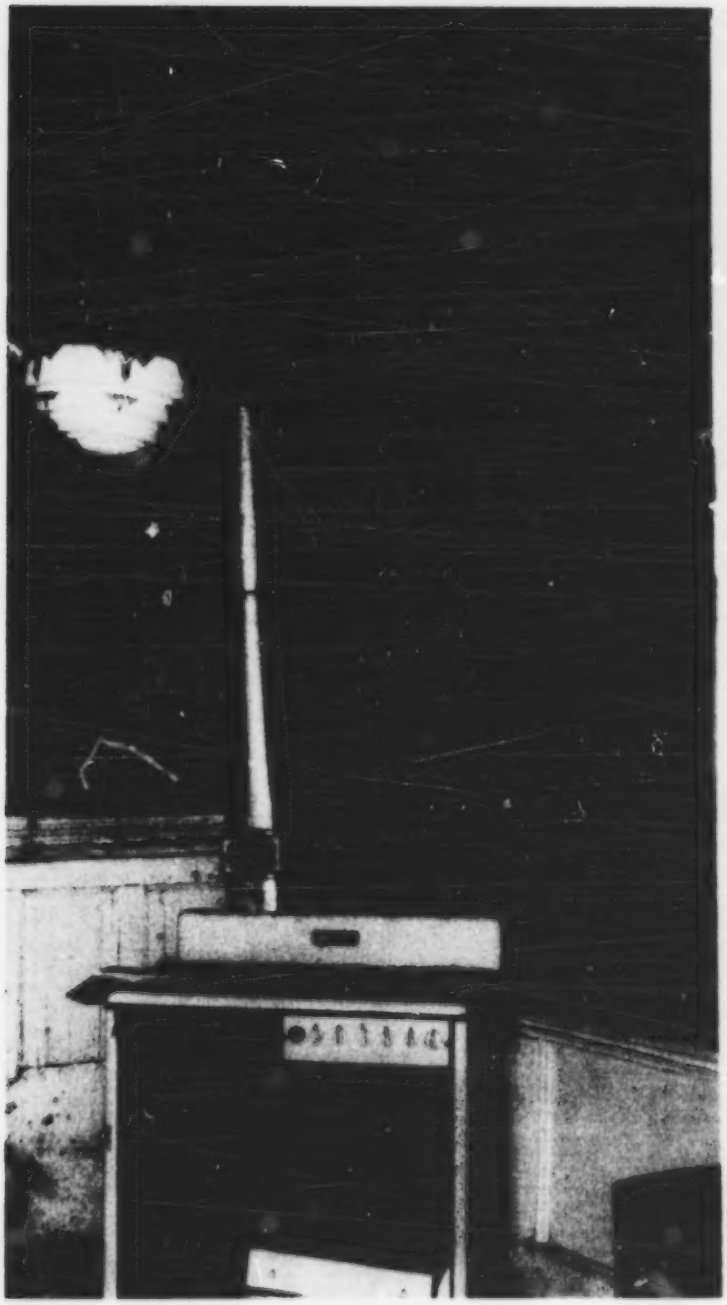
11 Genealogy of the McDonald and Campbell families.



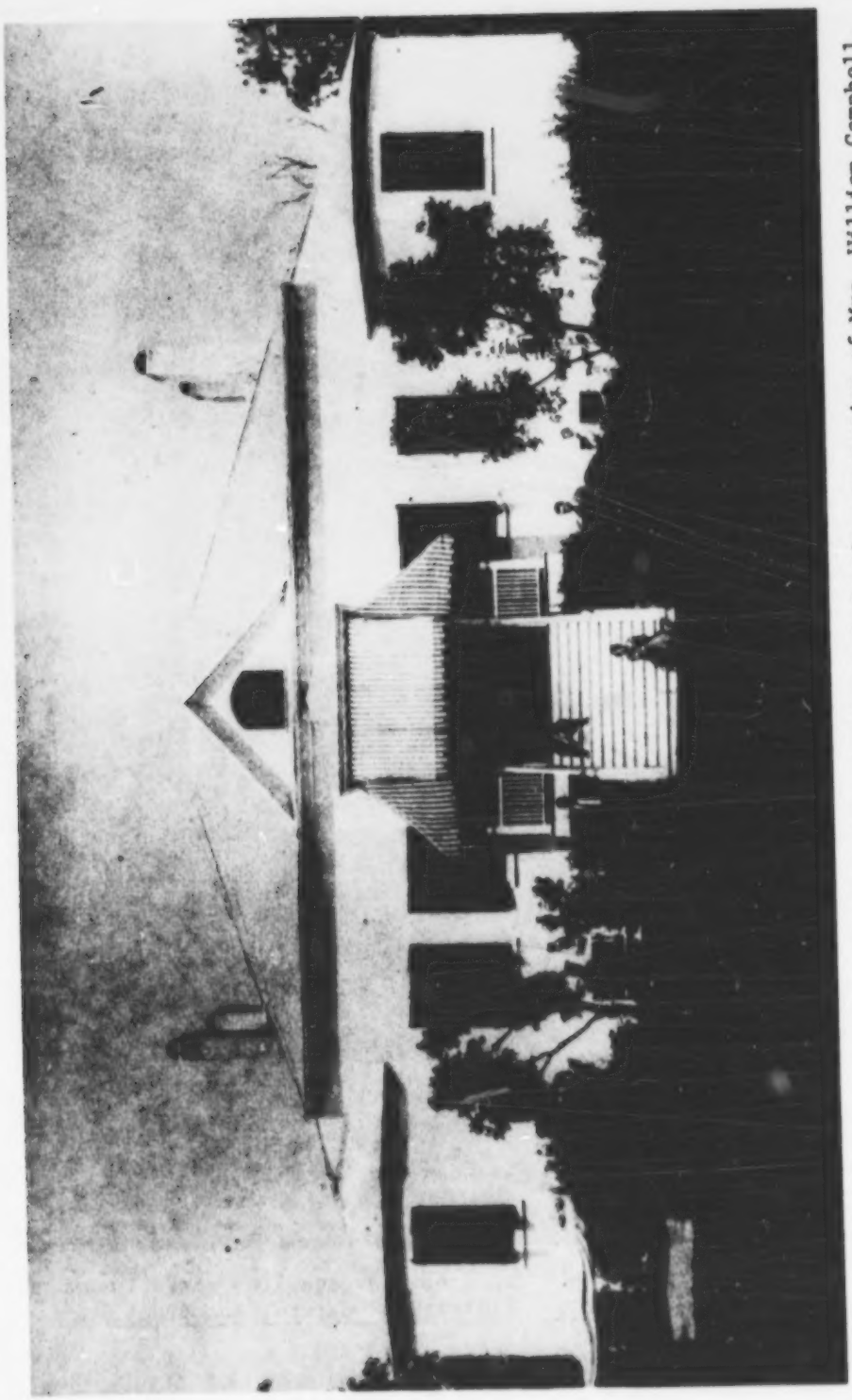
12 Attic floor plan showing room divisions. (Drawing by C. Tourangeau; after the original in the Ontario Archives.)



13 Sketch of main floor showing room usage, circa 1926-61. (Drawing by C. Tourangeau; after the original in the Ontario Archives.)

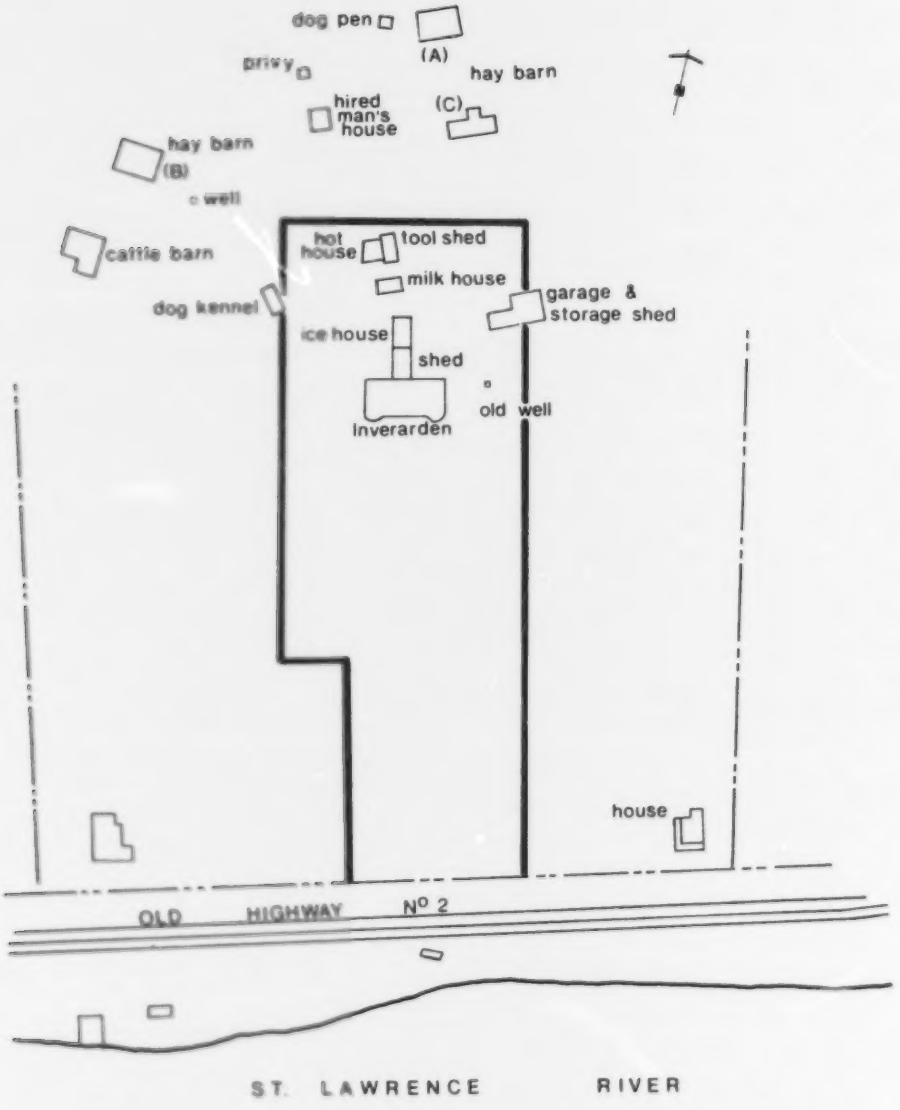


14 The room north of the drawing room, Feb. 1967. (Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives.)

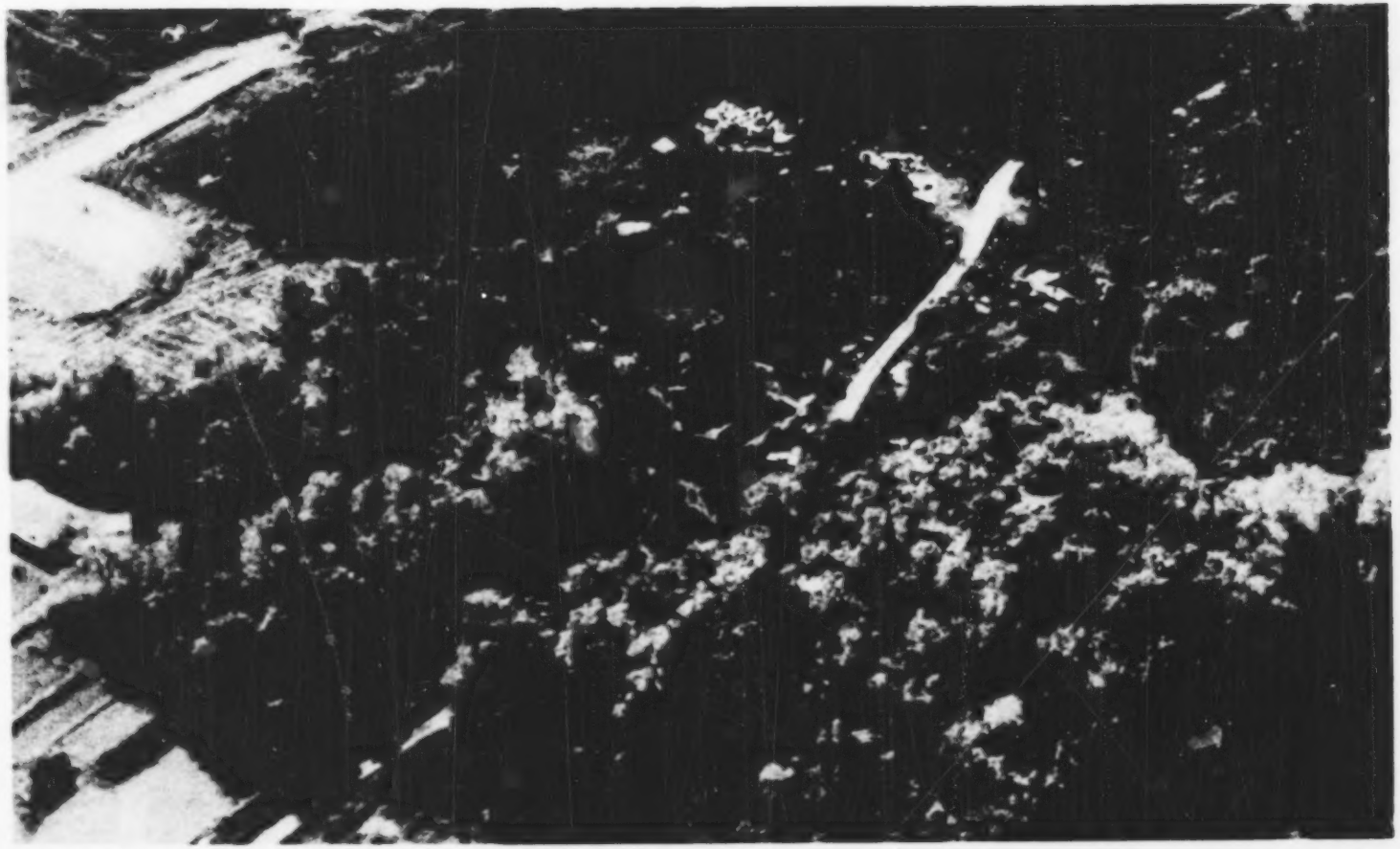


15 Inverarden and front grounds, *circa* 1915-17. (Photograph in the possession of Mrs. William Campbell, Cornwall.)

16 Aerial photographs of Gray's Creek area. Broken line marks Inverarden and environs, 1938. (Ontario. Ministry of Natural Resources.)



17 Survey of Highway 2, 1939, showing Inverarden and outbuildings. (Drawing by C. Tourangeau; original held by the Ontario Ministry of Transportation and Communications.)



18 Aerial photograph of Inverarden and outbuildings looking northwest, May 1966. (Celanese Canada Ltd., Cornwall.)

19 Aerial photograph of Inverarden and outbuildings, looking west, July 1966. (Celanese Canada Ltd., Cornwall.)

20 Rear of Inverarden property showing hay barn "A," looking southeast, June 1966. (Celanese Canada Ltd., Cornwall.)

21 Rear of Inverarden property showing hay barn "A" and hired man's house, looking west, 1 June 1966. (Celanese Canada Ltd., Cornwall.)

22 Cattle barn, north and west of Inverarden, looking southeast, 4 July 1966. (Celanese Canada Ltd., Cornwall.)

23 Hired man's house, north of Inverarden, looking east, 3 Oct. 1966. (Celanese Canada Ltd., Cornwall.)

24 Inverarden outbuildings looking northeast, 1966. (Celanese Canada Ltd., Cornwall.)

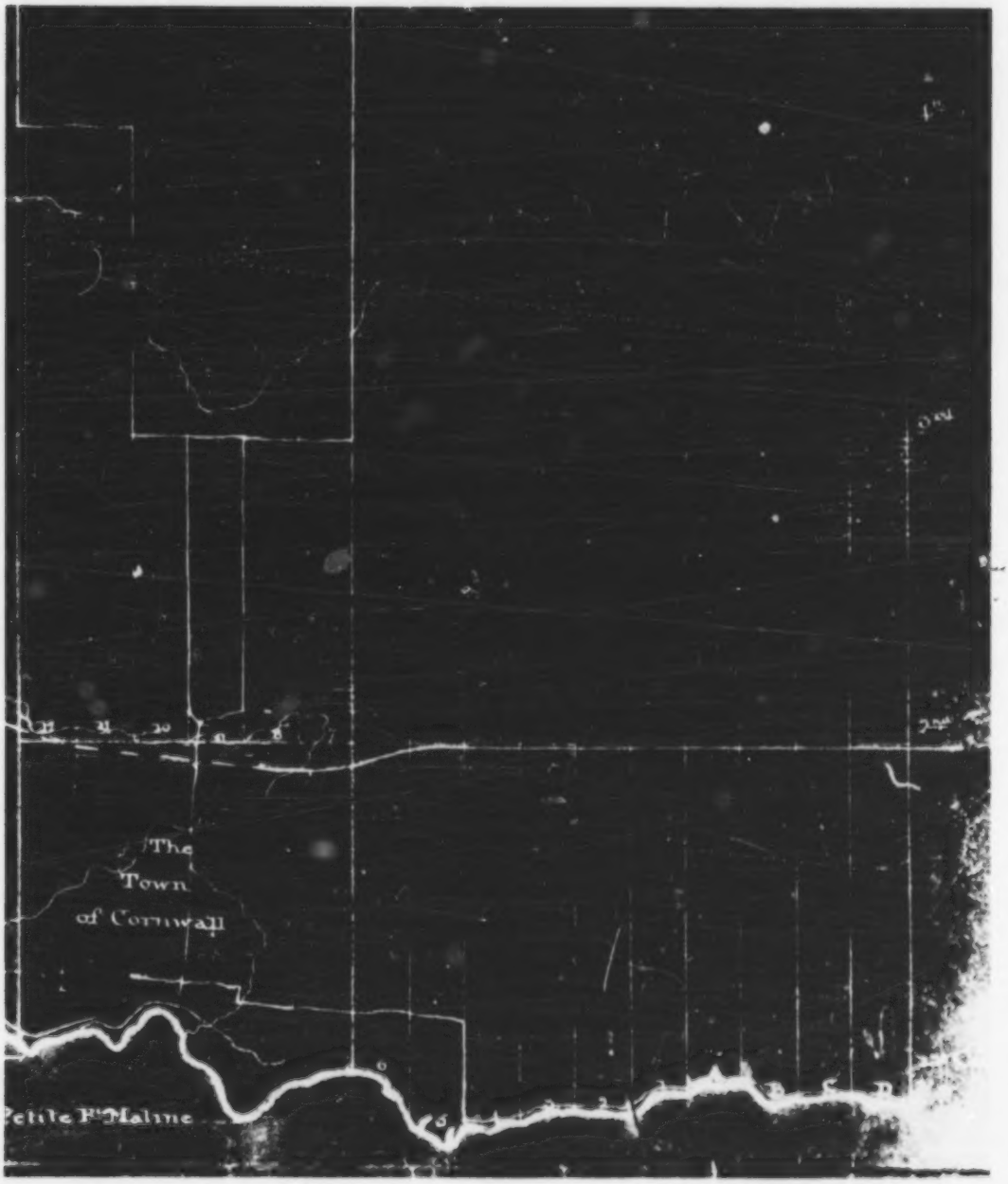
25 Inverarden and shed extension from northwest, Feb. 1967. (Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives.)

26 Inverarden and shed extension from northeast, Feb. 1967. (Cornwall. Simon Fraser Centennial Library. Stormont, Dundas and Glengarry Historical Society Archives.)

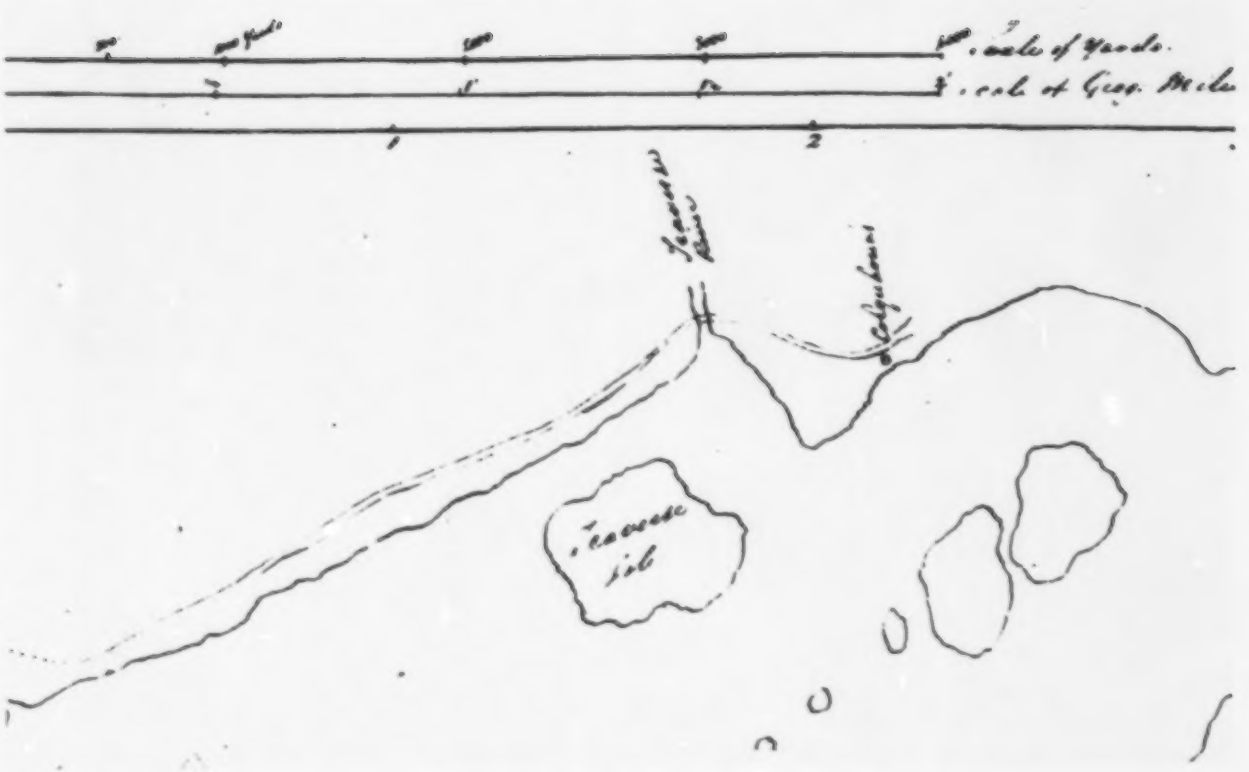
27 Inverarden front grounds, circa 1930. (Photograph in the possession of James Reid Campbell, Cornwall.)

28 Inverarden and front grounds, 1927. (Photograph in the possession of Mrs. William Campbell, Cornwall.)

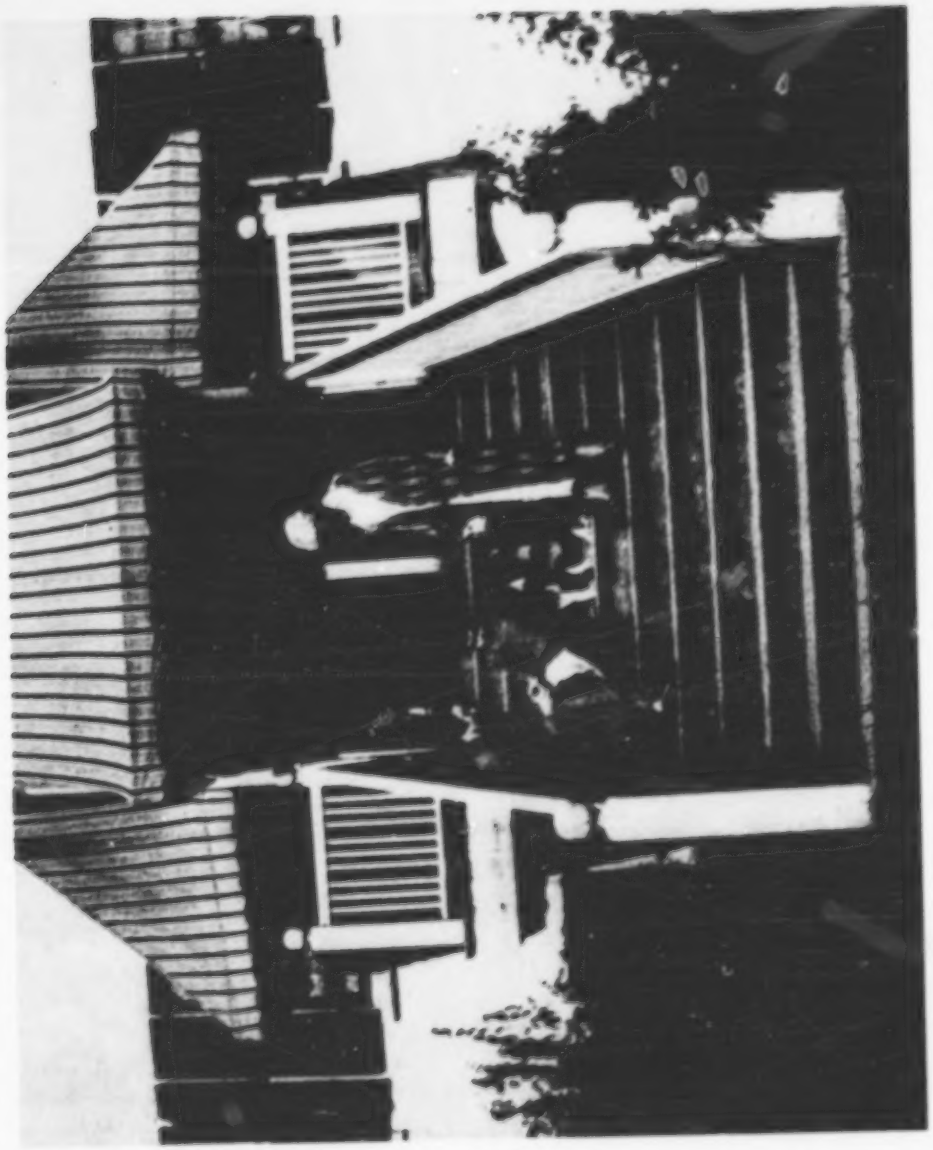
29 Inverarden from the southwest showing fence, circa 1930. (Photograph in the possession of James Reid Campbell, Cornwall.)



30 "Plan of the Township of Cornwall, 1794," prepared by William Chewett. (Public Archives Canada.)



31 "Sketch of the St. Lawrence, Cornwall to St. Regis," prepared by William Fitzwilliam Owen in June 1815. (Public Archives Canada.)



32 Inverarden front entrance detail, *circa* 1926. (Photograph in the possession of James Reid Campbell, Cornwall.)

33 Inverarden exterior detail, *circa* 1930. (Photograph in the possession of James Reid Campbell, Cornwall.)

34 Inverarden exterior detail, *circa* 1930. (Photograph in the possession of James Reid Campbell, Cornwall.)

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